

THREE PHASE WIRING FOR ASCO® 7000 SERIES AUTOMATIC DELAYED TRANSITION TRANSFER & BYPASS-ISOLATION SWITCHES TYPE J7ADTB RATED 150-600 AMPERES

FEATURES, SETTINGS, OPERATION & NOTES

THE FOLLOWING FEATURES AND RELATED SETTINGS ARE PART OF THE GROUP 5 CONTROL PANEL'S USER CONFIGURABLE PARAMETERS. FOR DETAILED INFORMATION REGARDING THE CONFIGURATION OF THESE PARAMETERS AND OTHER FEATURES OF THE GROUP 5 CONTROL PANEL, REFER TO THE GROUP 5 CONTROL PANEL FOR **ASCO® 7000 SERIES AUTOMATIC TRANSFER SWITCHES** USER'S GUIDE (PART NO. 381333-126) PROVIDED WITH EVERY 7000 SERIES AUTOMATIC TRANSFER SWITCH.

THE NOMINAL OPERATING VOLTAGE & FREQUENCY IS PRE-PROGRAMMED AT THE FACTORY BASED ON THE NAMEPLATE DATA PRINTED ON THE TRANSFER SWITCH & CONTROL PANEL NAMEPLATES.

VOLTAGE & FREQUENCY SENSING

THE FOLLOWING SETTINGS ARE EXPRESSED AS A PERCENTAGE OF THE CONTROL PANEL'S NOMINAL VOLTAGE SETTING UNLESS STATED OTHERWISE. ALL SETTINGS ARE ADJUSTABLE IN INCREMENTS OF 1%.

A. RMS VOLTAGE SENSING ON ALL PHASES OF THE NORMAL & EMERGENCY SOURCES.

| PARAMETER | RANGE OF SETTINGS | DEFAULT SETTING |
|-------------------------------------|---------------------------------|-----------------|
| NORMAL VOLTAGE DROPOUT | 70-98% | 85% |
| NORMAL VOLTAGE PICKUP | 85-100% | 90% |
| NORMAL OVER VOLTAGE TRIP | 102-115% | OFF |
| NORMAL VOLTAGE UNBALANCE | YES/NO | NO |
| NORMAL VOLTAGE UNBALANCE DROPOUT | 5-20% OF AVG. NORMAL VOLTAGE | 20% (if ON) |
| NORMAL VOLTAGE UNBALANCE PICKUP | 3-18% OF AVG. NORMAL VOLTAGE | 10% (if ON) |
| EMERGENCY VOLTAGE DROPOUT | 70-98% | 75% |
| EMERGENCY VOLTAGE PICKUP | 85-100% | 90% |
| EMERGENCY OVER VOLTAGE TRIP | 102-115% | OFF |
| EMERGENCY VOLTAGE UNBALANCE | YES/NO | NO |
| EMERGENCY VOLTAGE UNBALANCE DROPOUT | 5-20% OF AVG. EMERGENCY VOLTAGE | 20% (if ON) |
| EMERGENCY VOLTAGE UNBALANCE PICKUP | 3-18% OF AVG. EMERGENCY VOLTAGE | 10% (if ON) |

B. FREQUENCY SENSING OF THE NORMAL & EMERGENCY SOURCES.

| PARAMETER | RANGE OF SETTINGS | DEFAULT SETTING |
|-------------------------------|-------------------|-----------------|
| NORMAL FREQUENCY DROPOUT | 85-98% | 90% |
| NORMAL FREQUENCY PICKUP | 90-100% | 95% |
| NORMAL OVER FREQUENCY TRIP | 102-110% | OFF |
| EMERGENCY FREQUENCY DROPOUT | 85-98% | 90% |
| EMERGENCY FREQUENCY PICKUP | 90-100% | 95% |
| EMERGENCY OVER FREQUENCY TRIP | 102-110% | OFF |

TIME DELAYS

THE FOLLOWING TIME DELAY SETTINGS ALL HAVE AN ADJUSTABLE RANGE OF 0-60 min 59 sec UNLESS STATED OTHERWISE. ADJUSTABLE IN INCREMENTS OF 1 sec.

NOTE: SOME TIME DELAYS MAY BE EFFECTED BY CUSTOMER REQUESTED ACCESSORIES PROVIDED WITH THE UNIT. REFER TO THE DESCRIPTIONS PROVIDED UNDER THE "ACCESSORIES" NOTES ON THIS PAGE.

| FEATURE | NAME | DEFAULT SETTING |
|---------|---|-----------------|
| 1C | NORMAL SOURCE FAILURE TO ENGINE START | 1 sec |
| 2B | TRANSFER TO EMERGENCY ON AVAILABILITY OF EMERGENCY SOURCE | 0 sec |
| 1F | EMERGENCY SOURCE FAILURE RETRANSFER (NORMAL SOURCE AVAILABLE) | 0 sec |
| 2E | ENGINE COOLDOWN FOLLOWING RETRANSFER TO NORMAL | 5 min |
| 3A | RETRANSFER TO NORMAL (NORMAL FAILURE MODE) | 30 min |
| 3A | RETRANSFER TO NORMAL (TEST MODE) | 30 sec |
| - | DELAYED TRANSFER (LOAD "OFF" TIME), [0-5 min 59 sec] | 3 sec |

DESCRIPTIONS OF TIME DELAYS:

FEAT. 1C - DELAY ON NORMAL SOURCE OUTAGE. STARTS ON FAILURE OF NORMAL SOURCE. RESETS IF NORMAL SOURCE IS ACCEPTED BEFORE EXPIRATION. INHIBITS ENGINE STARTING AND AUTOMATIC TRANSFER UNTIL EXPIRATION.

FEAT. 2B - DELAY PRIOR TO TRANSFER TO THE EMERGENCY SOURCE. DELAY STARTS ON EXPIRATION OF FEAT. 1C AND WHEN THE EMERGENCY SOURCE HAS BEEN ACCEPTED. DELAY RESETS IF THE EMERGENCY SOURCE FAILS PRIOR TO EXPIRATION. ON EXPIRATION, TRANSFER TO EMERGENCY IS INITIATED UNLESS THE NORMAL SOURCE HAS RECOVERED AND THE "COMMIT TO TRANSFER" FEATURE IS SET TO "No" COMMIT. PROVIDES A PERIOD FOR EMERGENCY SOURCE STABILIZATION OR STAGING OF MULTIPLE TRANSFER SWITCH CONTROLLED LOADS TO THE EMERGENCY SOURCE.

FEAT. 1F - DELAY ON RETRANSFER TO NORMAL IN THE EVENT OF EMERGENCY SOURCE FAILURE. DELAY BEGINS ON FAILURE OF THE EMERGENCY SOURCE IF THE NORMAL SOURCE IS ACCEPTABLE. ON EXPIRATION, RETRANSFER TO NORMAL WILL BE INITIATED.

FEAT. 2E - DELAY ON ENGINE SHUTDOWN (ENGINE COOL DOWN PERIOD). DELAY STARTS FOLLOWING RETRANSFER TO THE NORMAL SOURCE. PROVIDES A PERIOD FOR THE ENGINE-GENERATOR SET TO RUN UNLOADED PRIOR TO SHUTDOWN.

FEAT. 3A - RETRANSFER TO NORMAL DELAY (NORMAL FAILURE MODE) DELAY STARTS WHEN NORMAL SOURCE IS ACCEPTED (FOLLOWING IT'S FAILURE) AND WHILE THE LOAD IS CONNECTED TO EMERGENCY. RESETS IF NORMAL FAILS PRIOR TO EXPIRATION OR IF THE EMERGENCY SOURCE FAILS BEFORE EXPIRATION AND FEAT. 1F EXPIRES (AUTOMATIC BYPASS ON EMERGENCY SOURCE FAILURE). PROVIDES A PERIOD FOR THE NORMAL SOURCE TO STABILIZE PRIOR TO RETRANSFER.

FEAT. 3A - RETRANSFER TO NORMAL DELAY (TEST MODE) DELAY STARTS WHEN THE "TRANSFER TEST" SWITCH IS RESET TO "AUTO" (FOLLOWING A USER INITIATED TRANSFER TEST) AND WHILE THE LOAD IS CONNECTED TO EMERGENCY. RESETS IF NORMAL FAILS PRIOR TO EXPIRATION OR IF THE EMERGENCY SOURCE FAILS BEFORE EXPIRATION AND FEAT. 1F EXPIRES (AUTOMATIC BYPASS ON EMERGENCY SOURCE FAILURE).

DELAYED TRANSFER (LOAD "OFF" TIME) - PROVIDES A USER DEFINABLE PERIOD DURING WHICH THE LOAD IS DISCONNECTED FROM BOTH THE NORMAL AND EMERGENCY SOURCES DURING TRANSFER IN EITHER DIRECTION. THE DELAY ("OFF" PERIOD) BEGINS FOLLOWING THE OPENING OF THE SOURCE CONTACTOR, CN OR CE, CONNECTED TO THE SOURCE FROM WHICH TRANSFER IS BEING MADE. UPON EXPIRATION, CLOSURE OF THE OPPOSITE SOURCE CONTACTOR IS INITIATED.

ENGINE EXERCISER

THE ENGINE EXERCISER FEATURE PROVIDES A MEANS TO PERFORM AUTOMATIC EXERCISING OF THE ENGINE-GENERATOR SET EITHER WITH OR WITHOUT LOAD TRANSFER.

THE USER CAN PROGRAM UP TO SEVEN DIFFERENT EXERCISE ROUTINES. EACH ROUTINE INCLUDES;

1. ENABLE OR DISABLE THE ROUTINE
2. ENABLE OR DISABLE TRANSFER OF THE LOAD DURING THE ROUTINE
3. SET START TIME OF ROUTINE -
 - TIME OF DAY
 - DAY OF WEEK
 - WEEK OF MONTH (1st, 2nd, 3rd, 4th, ALTERNATE OR ALL)
4. SET THE DURATION OF THE ROUTINE

(CONTINUED). . .

| PARAMETER | | RANGE OF SETTING | | | | | | | | | | DEFAULT SETTING |
|------------------------------|--|-----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|--|-----------------|
| MONTH (CLOCK SET) | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | | CURRENT DATE |
| | | OCT | NOV | DEC | | | | | | | | |
| DAY | | 1-31 | | | | | | | | | | |
| YEAR | | 00-99 | | | | | | | | | | |
| HOUR | | 0-23 | | | | | | | | | | |
| MINUTE | | 0-59 | | | | | | | | | | |
| ENABLE ROUTINE (ROUTINE 1-7) | | YES/NO | | | | | | | | | | NO |
| TRANSFER LOAD | | YES/NO | | | | | | | | | | NO |
| START HOUR | | 0-23 | | | | | | | | | | 0 |
| START MINUTE | | 0-59 | | | | | | | | | | 0 |
| RUN WEEK | | ALL | | | | | | | | | | ALL |
| RUN DAY | | SUN MON TUE WED THU FRI SAT | | | | | | | | | | SUN |
| DURATION HOURS | | 0-23 | | | | | | | | | | 0 |
| DURATION MINUTES | | 0-59 | | | | | | | | | | 0 |

OPERATION

IF THE NORMAL SOURCE FAILS, THE TRANSFER SWITCH INITIATES STARTING OF THE ENGINE-GENERATOR SET. WHEN PROPER VOLTAGE AND FREQUENCY HAVE BEEN ATTAINED, THE LOAD WILL BE TRANSFERRED TO THE EMERGENCY SOURCE BY MEANS OF A DELAYED TRANSITION, (PROGRAMMED LOAD DISCONNECT PERIOD).

DELAYED TRANSITION TRANSFER TO EMERGENCY WILL CAUSE THE NORMAL SOURCE CONTACTOR (CN) TO OPEN. AFTER THE LOAD DISCONNECT DELAY, AS SET VIA THE USER INTERFACE OF THE GROUP 5 CONTROL PANEL, THE EMERGENCY SOURCE CONTACTOR (CE) WILL CLOSE. DURING THE PERIOD THAT BOTH CONTACTORS ARE OPEN AND THE TIME DELAY IS ACTIVE, A "LOAD DISCONNECT ACTIVE" LED WILL BE LIT (AMBER LED).

WHEN THE NORMAL SOURCE IS RESTORED FOR THE DURATION OF THE FEATURE 3A, RETRANSFER TO NORMAL TIME DELAY SETTING, THE LOAD WILL BE RETRANSFERRED TO THE NORMAL SOURCE IN A DELAYED TRANSITION MANNER.

DELAYED TRANSITION RETRANSFER TO NORMAL WILL CAUSE THE EMERGENCY SOURCE CONTACTOR (CE) TO OPEN. AFTER THE LOAD DISCONNECT TIME DELAY EXPIRES, THE NORMAL SOURCE CONTACTOR (CN) WILL CLOSE.

THE ENGINE WILL CONTINUE TO RUN FOR THE ENGINE COOL DOWN PERIOD, FEATURE 2E.

DELAYED TRANSITION TRANSFER WILL ALSO OCCUR DURING TRANSFER TO EMERGENCY BY OPERATING THE TEST SWITCH. RETRANSFER TO NORMAL WILL OCCUR AS PREVIOUSLY DESCRIBED.

SIGNALS & AUXILIARIES

A. FEATURE 7 - ENGINE START SIGNAL

SIGNAL INITIATED BY DROPOUT OF CONTROL PANEL RELAY (NR) FOLLOWING EXPIRATION OF THE FEATURE 1C TIME DELAY (DELAY TO OVERRIDE MOMENTARY NORMAL SOURCE OUTAGES). FEATURE 7 CLOSES TO SIGNAL ENGINE START. ENGINE STARTING SIGNAL RESETS FOLLOWING RETRANSFER TO THE NORMAL SOURCE AND EXPIRATION OF THE FEATURE 2E (ENGINE COOL DOWN) TIME DELAY. FEATURE 7 CONSISTS OF A FORM A CONTACT CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 5 AMPS AT 32VDC/120VAC RESISTIVE.

B. FEATURES 14AE & 14BE - TRANSFER SWITCH AUXILIARY POSITION INDICATING CONTACTS. SIX (6) FORM C CONTACTS TO INDICATE CONNECTION OF THE TRANSFER SWITCH TO NORMAL (14A) AND SIX (6) FOR EMERGENCY (14B). CONTACTS CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB). CONTACTS RATED 10 AMPS, 32 VDC, 250 VAC.

C. FEATURE 17 - REMOTE TRANSFER TO EMERGENCY. REQUIRES A CUSTOMER SUPPLIED NORMALLY OPEN CONTACT. CLOSING OF THE CONTACT CAUSES ENGINE START AND TRANSFER TO THE EMERGENCY SOURCE. OPENING OF THE CONTACT ACTIVATES THE FEATURE 3A (RETRANSFER TO NORMAL) DELAY PRIOR TO RETRANSFER. IN THE EVENT THE EMERGENCY SOURCE FAILS WHILE THE TRANSFER SWITCH IS CONNECTED TO EMERGENCY AND THE REMOTE CONTACT IS CLOSED, THE TRANSFER SWITCH WILL RETRANSFER TO THE NORMAL SOURCE. CONNECTED TO THE FIELD CONNECTIONS TERMINAL BLOCK (TB).

USER CONTROLS AND INDICATIONS

A. FEATURES 5 & 6B - TRANSFER TEST/RETRANSFER TIME DELAY BYPASS CONTROLS.

TRANSFER TEST:

OPERATION CAUSES A NORMAL SOURCE FAILURE SEQUENCE. ACTIVATE AND HOLD FOR AT LEAST 15 SECONDS TO ALLOW TIME FOR THE ENGINE-GENERATOR TO START.

RETRANSFER TIME DELAY BYPASS:

OPERATION WILL BYPASS THE FEATURE 3A (RETRANSFER TO NORMAL DELAY).

B. FEATURES 9A & 9B - TRANSFER SWITCH POSITION INDICATORS.

FEATURE 9A: TRANSFER SWITCH CLOSED ON NORMAL (GREEN LED)

FEATURE 9B: TRANSFER SWITCH CLOSED ON EMERGENCY (RED LED)

C. FEATURES 9C & 9D - SOURCE ACCEPTANCE INDICATORS.

FEATURE 9C: NORMAL SOURCE ACCEPTED (GREEN LED)

FEATURE 9D: EMERGENCY SOURCE ACCEPTED (RED LED)

D. LOAD DISCONNECT ACTIVE - INDICATES THAT THE TRANSFER SWITCH IS IN THE LOAD DISCONNECTED POSITION (BOTH NORMAL (CN) AND EMERGENCY (CE) CONTACTORS OPEN) (AMBER LED).

BYPASS SWITCH & ISOLATION USER CONTROLS & INDICATIONS

A. BYPASS / ISOLATION DISPLAY INDICATORS - LED TYPE, COMMON LAMP TEST

NORMAL SOURCE AVAILABLE - GREEN

EMERGENCY SOURCE AVAILABLE - RED

TRANSFER SWITCH CONNECTED TO NORMAL - GREEN

TRANSFER SWITCH CONNECTED TO EMERGENCY - RED

BYPASS SWITCH CONNECTED TO NORMAL - GREEN

BYPASS SWITCH CONNECTED TO EMERGENCY - RED

LOAD CONNECTED - AMBER

TS IN CONNECTED POSITION - AMBER

TS IN TEST POSITION - AMBER

TS ISOLATED - AMBER

UNIT NOT IN AUTOMATIC - AMBER

B. BYPASS / ISOLATION DISPLAY ENGINE CONTROL SWITCH

TWO (2) POSITIONS:

"AUTO" - ENGINE STARTING CONTROLLED BY TRANSFER SWITCH CONTROL PANEL

"RUN" - SIGNALS ENGINE TO START

C. BYPASS / ISOLATION INTERLOCKS (SOLENOID ACTUATED)

SL1: INTERLOCKS THE TRANSFER SWITCH ISOLATION CRANK WITH THE TRANSFER AND BYPASS SWITCHES TO INSURE THAT:

THE TRANSFER SWITCH CANNOT BE DISCONNECTED WITHOUT BEING BYPASSED.

THE TRANSFER SWITCH CANNOT BE RECONNECTED UNLESS IT IS IN THE SAME POSITION AS THE BYPASS SWITCH.

SL2: INTERLOCKS THE BYPASS SWITCH OPERATOR WHEN THE TRANSFER SWITCH IS IN THE CONNECTED POSITION TO INSURE THAT THE BYPASS SWITCH CANNOT BE OPERATED TO A SOURCE OTHER THAN THAT WHICH THE TRANSFER SWITCH IS CONNECTED TO.

GENERAL NOTES

1. SWITCH SHOWN DE-ENERGIZED AND CONNECTED TO THE NORMAL SOURCE. THE BYPASS SWITCH OPERATOR IS IN THE "OFF" (AUTOMATIC) POSITION WITH THE ISOLATION CRANK (TS) IN THE FULLY CONNECTED POSITION.

2. DEVICE SYMBOLS AND DESIGNATIONS ARE IN ACCORDANCE WITH NEMA PUBLICATION ICS 1-1983, PART 1-101A.

3. ALL WIRING IS #16 AWG, TINNED, STRANDED COPPER UNLESS OTHERWISE INDICATED.

4. ○ ON TERMINAL BLOCKS INDICATES AVAILABLE FIELD CONNECTION POINT.

5. ● ON TERMINAL BLOCKS INDICATES FACTORY CONNECTION POINT.

6. CONTROL AND ACCESSORY WIRING IS ROUTED IN ACCORDANCE WITH ASCO ASSEMBLY PROCEDURE GS451261.

7. AN OPERATOR'S MANUAL IS FURNISHED WITH EACH AUTOMATIC TRANSFER SWITCH. REFER TO THIS PUBLICATION PRIOR TO INSTALLATION AND OPERATION OF THE UNIT.

| BASE CATALOG NUMBER | | | | CATALOG NUMBER SUFFIXES | | | |
|---------------------|----------------|-------------|------|-------------------------|------------|--------------------|----------------|
| CATALOG TYPE | NEUTRAL TYPE | PHASE POLES | AMPS | VOLT CODE | CONTROLLER | OPTIONAL ACCESSORY | ENCLOSURE CODE |
| J7ADTB | A | 3 | 150 | C | 5 | X | C |
| | | | 200 | D | | | E |
| | | | 230 | E | | | F |
| | | | 260 | H | | | H |
| | | | 400 | J | | | J |
| | | | 600 | K | | | K |
| | | | | L | | | L |
| | | | | M | | | M |
| | | | | N | | | N |
| | | | | P | | | P |
| | | | | Q | | | Q |
| | | | | R | | | |
| | B | 3 | 150 | H | 5 | X | H |
| | | | 200 | J | | | J |
| | | | 230 | K | | | K |
| | | | 260 | L | | | L |
| | | | 400 | M | | | M |
| | | | 600 | N | | | N |
| | BLANK FOR NONE | | | | | BLANK FOR NONE | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

| EXPLANATION OF CATALOG NUMBER CODES | | | | | | | | | |
|-------------------------------------|-------------|--|---|-----------------|-----------------|------|---|--|--|
| NEUTRAL TYPE | | | VOLTAGE CODES 3 PHASE (3 OR 4 WIRE) 50 OR 60 Hz | | ENCLOSURE CODES | | | | |
| CODE | DESCRIPTION | | CODE | NOMINAL VOLTAGE | CODE | TYPE | DESCRIPTION | | |
| BLANK | NONE | | | | BLANK | | OPEN TYPE (NO ENCLOSURE) | | |
| A | SOLID | | | | C | 1 | GENERAL PURPOSE, INDOOR | | |
| B | SWITCHING | | | | E | 2 | INDOOR, WATER & DUST RESISTANT | | |
| | | | C | 208 | F | 3R | OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT | | |
| | | | D | 220 | G | 4 | INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT | | |
| | | | E | 230 | H | 4X | TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL) | | |
| | | | F | 240 | J | 4X | TYPE 4 PLUS CORROSION RESISTANCE (FIBERGLASS) | | |
| | | | H | 380 | K | 7 | EXPLOSION PROOF | | |
| | | | J | 400 | L | 12 | INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT | | |
| | | | K | 415 | | | (SECURE ENCLOSURES) | | |
| | | | L | 440 | M | 3R | OUTDOOR, RAINPROOF, SLEET & ICE RESISTANT | | |
| | | | M | 460 | N | 4 | INDOOR/OUTDOOR, WATERTIGHT & DUSTTIGHT | | |
| | | | N | 480 | P | 4X | TYPE 4 PLUS CORROSION RESISTANCE (STAINLESS STEEL) | | |
| | | | P | 550 | Q | 12 | INDOOR, INDUSTRIAL ENVIRONMENTS, OILTIGHT & DUSTTIGHT | | |
| | | | Q | 575 | | | | | |
| | | | R | 600 | | | | | |

CATALOG NUMBER _____

ASCO® CERTIFIED TO

S.O. _____

BY _____

DATE _____

FORM REV D

PROJECT NAME: _____

WIRING _____ DIAGRAM _____

7000 SERIES (J7ADTB)

"J" FRAME, GROUP 5 CONTROLS

| | | | | | | | |
|------------------|-----|----------|----------|---|-----------------|--|----------------------------|
| DRAWN BY | JPB | DATE | 10/12/06 | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055 | ASSEM. REF. NO. | | COMPUTER GENERATED DRAWING |
| CHECKED | | | | PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. | | | |
| PROJECT APPROVAL | | | | | | | |
| FINAL APPROVAL | JPB | 10/12/06 | | | | | |
| | | | | ASCO® ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A. | | | |
| | | | | DWG. NO. 806099 DRAWING D ECN NO. 212251 SHEET 1 OF 10 | | | |

TECHNICAL DATA & ACCESSORIES

BYPASS SWITCH AUXILIARY CONTACTS

| BP AUXILIARY CONTACT | STATUS (*) | BP SWITCH POSITION (AUX3) | | |
|----------------------------|---------------|---------------------------------|-----|--------|
| | | EMERG | OFF | NORMAL |
| 81-82 | ● | | | |
| 83-84 | | | | |
| 85-86 | ● | | | |
| 87-88 | ● | | | |
| 89-90 | ● | | | |
| 91-92 | | | | |
| 93-94 | | | | |
| 101-102 | | | | |
| 103-104 | | | | |
| 105-106 | ● | | | |
| 107-108 | | | | |
| 109-110 | ● | | | |
| 111-112 | ● | | | |
| 113-114 | | | | |
| 115-116 | | | | |
| 117-118 | | | | |
| 125-126 | | | | |
| 127-128 | | | | |

BYPASS SWITCH OPERATOR AUXILIARY CONTACTS

| | BP AUXILIARY CONTACT | STATUS (*) | BP SWITCH HANDLE POSITION | | | |
|--------|----------------------------|---------------|---------------------------|------------|-------------------|------------------|
| | | | NORMAL (CCW) | | EMERGENCY (CW) | |
| | | | BYPASS (±90°) | <> ±20° | <> ±20° | BYPASS (±90°) |
| (AUX4) | 140-141 | ● | | | | |
| | 140-142 | ● | | | | |
| | 146-147 | ● | | | | |
| | 146-148 | ● | | | | |
| (AUX5) | 137-138 | ● | | | | |
| | 137-139 | ● | | | | |
| | 143-144 | ● | | | | |
| | 143-145 | ● | | | | |
| | | | | | | |

ISOLATION (TRANSFER SWITCH CARRIAGE POSITION) AUXILIARY CONTACTS

| IS AUXILIARY CONTACT | STATUS (*) | TRANSFER SWITCH CARRIAGE POSITION | | | | |
|----------------------------|---------------|--------------------------------------|--------|------|--------|---------|
| | | CONNECT | > < | TEST | > < | ISOLATE |
| 1-2 | ● | | | | | |
| 1-3 | ● | | | | | |
| 4-5 | ● | | | | | |
| 4-6 | ● | | | | | |
| 7-8 | ● | | | | | |
| 7-9 | ● | | | | | |
| 10-11 | ● | | | | | |
| 10-12 | ● | | | | | |
| 13-14 | ● | | | | | |
| 13-15 | ● | | | | | |
| 16-17 | ● | | | | | |
| 16-18 | ● | | | | | |
| 19-20 | ● | | | | | |
| 19-21 | ● | | | | | |
| 22-23 | ● | | | | | |
| 22-24 | ● | | | | | |
| 25-26 | ● | | | | | |
| 25-27 | ● | | | | | |
| 28-29 | ● | | | | | |
| 28-30 | ● | | | | | |

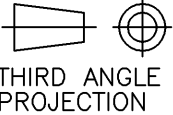
(*) CONTACT AVAILABILITY STATUS:

“●” CONTACT PROVIDED & USED IN CIRCUITRY
“BLANK” CONTACT NOT USED. IF PHYSICALLY AVAILABLE,
CONTACT IS FOR FACTORY USE ONLY!

| | | | | |
|---------|--------|-----|-----|----------|
| D | 212251 | MR | JPB | 03/01/07 |
| SEE ECN | | | | |
| C | 211805 | MR | JPB | 01/30/07 |
| SEE ECN | | | | |
| B | 211529 | MR | JPB | 01/10/07 |
| SEE ECN | | | | |
| A | 210925 | JPB | JPB | 11/16/06 |
| SEE ECN | | | | |
| — | 210421 | JPB | JPB | 10/12/06 |
| ISSUE | | | | |

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| PROJECT NAME: | | REV. TO SHEET | ECN NO. | BY | APP. | DATE |
| WIRING | | DIAGRAM | | | | |
| 7000 SERIES (J7ADTB) | | | | | | |
| "J" FRAME, GROUP 5 CONTROLS | | | | | | |
| DRAWN BY | | BY | DATE | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055 | | ASSEM. REF. NO. |
| JPB | | JPB | 10/12/06 | | | |
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| PROJECT APPROVAL | | COMPUTER GENERATED DRAWING | | | | |
| | | DWG. NO. | | SCALE | 1:1 | SIZE DS |
| FINAL APPROVAL | | JPB | | 10/12/06 | | 806099 |
| | | DRAWING REV. D | | ECN NO. 212251 | | SHEET 2 OF 10 |

ASCO[®] ASCO POWER TECHNOLOGIES, L.P.
FLORHAM PARK, NEW JERSEY 07932 U.S.A.

THIRD ANGLE PROJECTION

FIELD CONNECTIONS

D

D

C

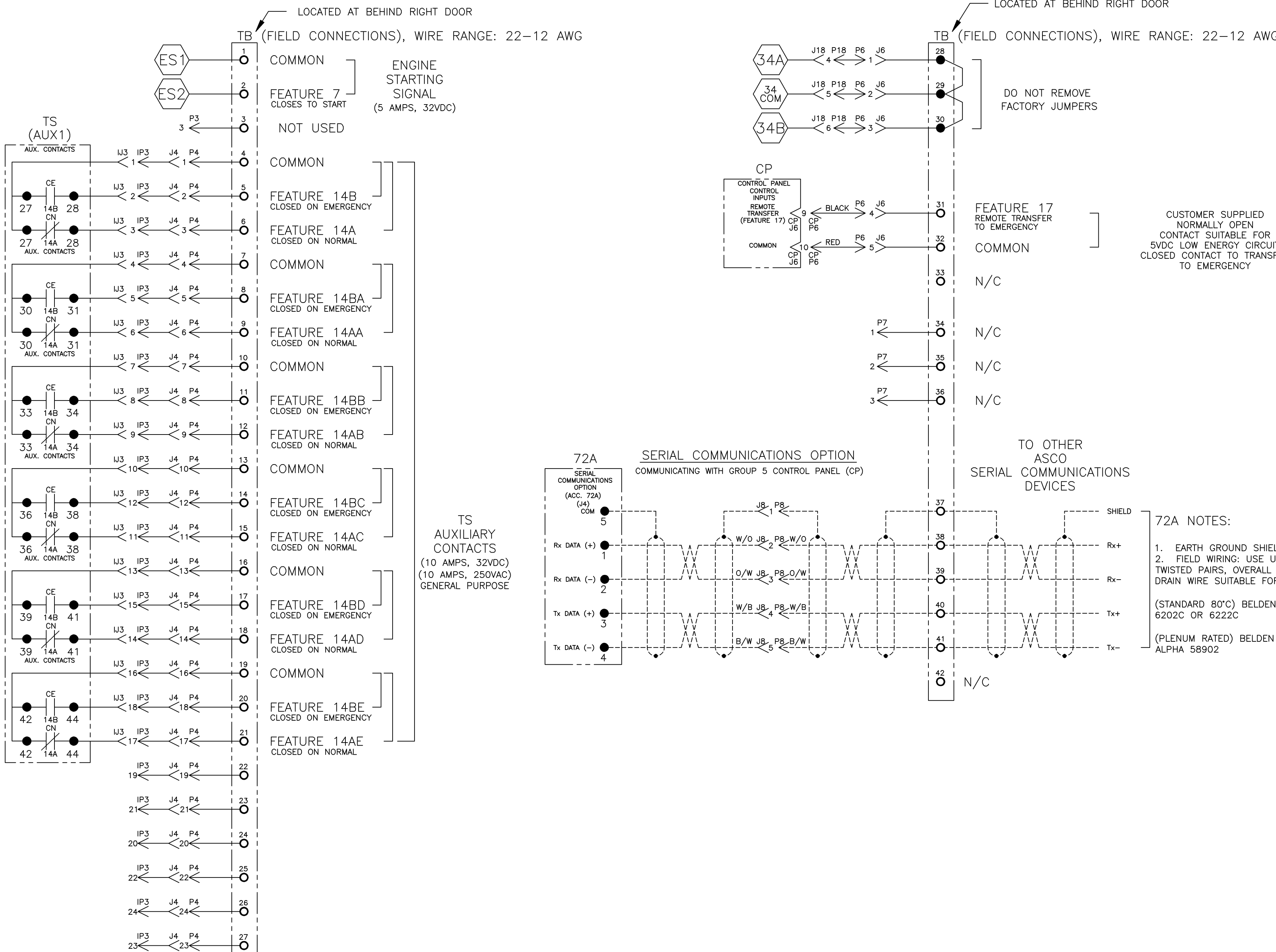
C

B

B

A

A



| | | | | |
|---|--------|-----|-----|----------|
| D | 212251 | MR | JPB | 03/01/07 |
| C | 211805 | MR | JPB | 01/30/07 |
| B | 211529 | MR | JPB | 01/10/07 |
| A | 210925 | JPB | JPB | 11/16/06 |
| — | 210421 | JPB | JPB | 10/12/06 |
| — | ISSUE | | | |

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| PROJECT NAME: | | REV. TO SHEET | ECN NO. | BY | APP. | DATE |
| WIRING | | DIAGRAM | | | | |
| 7000 SERIES (J7ADTB) | | | | | | |
| "J" FRAME, GROUP 5 CONTROLS | | | | | | |
| DRAWN BY | BY | DATE | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-005 | | ASSEM. REF. NO. | COMPUTER GENERATED DRAWING |
| CHECKED | JPB | 10/12/06 | | | | SCALE 1:1 SIZE DS |
| PROJECT APPROVAL | | | PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. | | | DWG. NO. 806099 |
| FINAL APPROVAL | JPB | 10/12/06 | ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A. | | | DRAWING REV. D ECN NO. 212251 SHEET 3 OF 10 |

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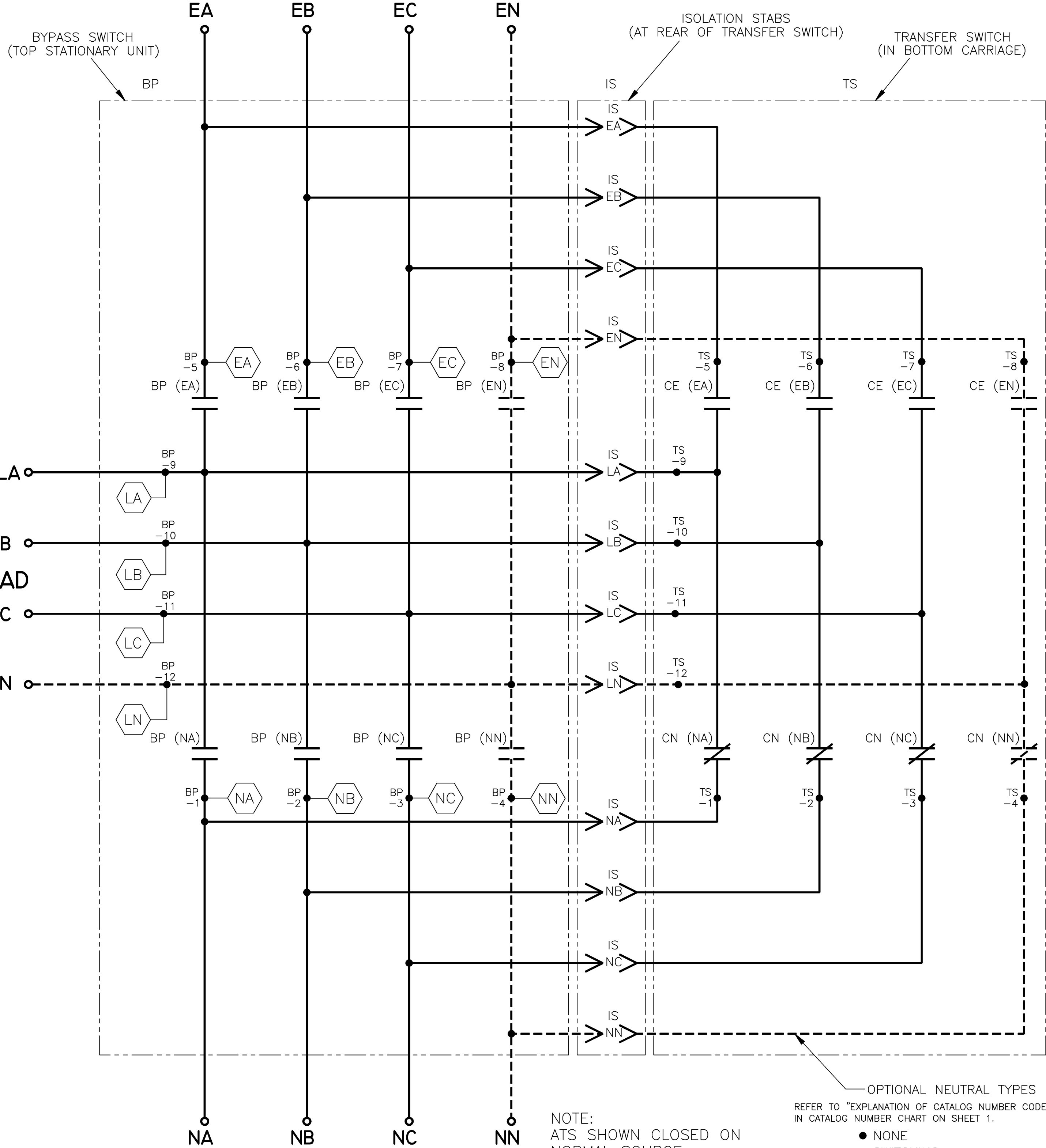
MAIN POWER POLES

TS OPERATOR CIRCUIT

EMERGENCY

NORMAL

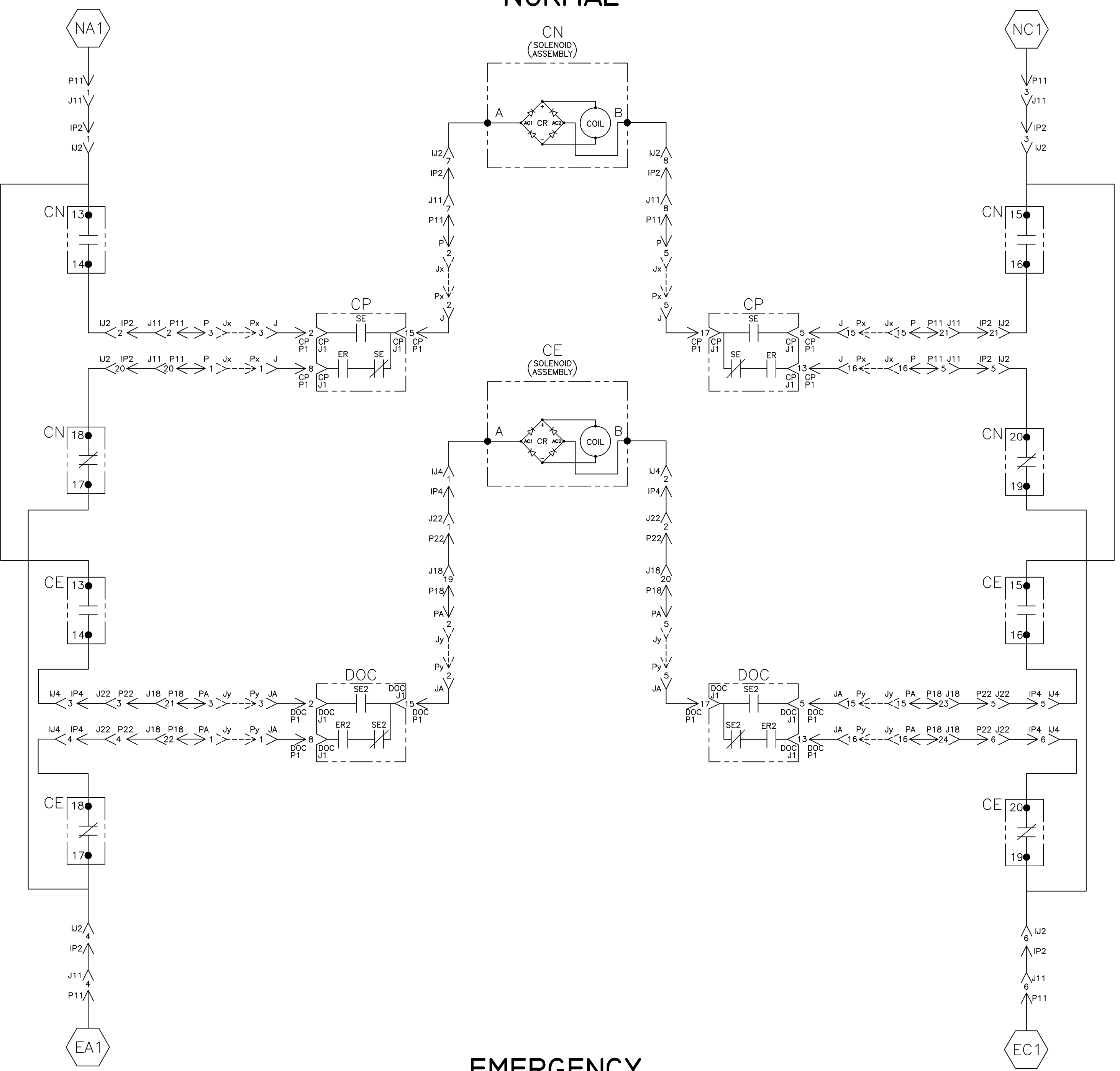
EMERGENCY



NOTE: ATS SHOWN CLOSED ON NORMAL SOURCE. BYPASS SWITCH IN (AUTOMATIC) POSITION.

OPTIONAL NEUTRAL TYPES
REFER TO "EXPLANATION OF CATALOG NUMBER CODES" IN CATALOG NUMBER CHART ON SHEET 1.

- NONE
- SWITCHING
- SOLID BUS PLATE



| CN CONTROL CONTACTS | | | | |
|---------------------|-----------|--------------|--------------|---------|
| SOLENOID POSITION | | | | |
| CN | CN CLOSED | BEFORE TDC > | BEFORE TDC < | CN OPEN |
| 13-14 | | | | |
| 15-16 | | | | |
| 17-18 | | | | |
| 19-20 | | | | |

TDC (TOP DEAD CENTER)
TRANSFER SWITCH TEST & ADJUSTMENT PROCEDURE SPECIFIES CONTROL CUT-OFF (CONTACT OPENING) SETTING.

| CE CONTROL CONTACTS | | | | |
|---------------------|-----------|--------------|--------------|---------|
| SOLENOID POSITION | | | | |
| CE | CE CLOSED | BEFORE TDC > | BEFORE TDC < | CE OPEN |
| 13-14 | | | | |
| 15-16 | | | | |
| 17-18 | | | | |
| 19-20 | | | | |

TDC (TOP DEAD CENTER)
TRANSFER SWITCH TEST & ADJUSTMENT PROCEDURE SPECIFIES CONTROL CUT-OFF (CONTACT OPENING) SETTING.

| | | | | | | |
|-----------------------------|-----|---------------|---|----|-----------------|----------------------------|
| PROJECT NAME: | | REV. TO SHEET | ECN NO. | BY | APP. | DATE |
| WIRING | | DIAGRAM | | | | |
| 7000 SERIES (J7ADTB) | | | | | | |
| "J" FRAME, GROUP 5 CONTROLS | | | | | | |
| CHECKED | BY | DATE | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-1-003. FOR PLASTIC PARTS SEE MP-1-055 | | ASSEM. REF. NO. | COMPUTER GENERATED DRAWING |
| PROJECT APPROVAL | JPB | 10/12/06 | PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. | | | SCALE 1:1 SIZE DS |
| FINAL APPROVAL | JPB | 10/12/06 | ASCO Power Technologies, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A. | | | DWG. NO. 806099 |
| REV. | | D | ECN NO. 212251 | | SHEET 4 OF 10 | |

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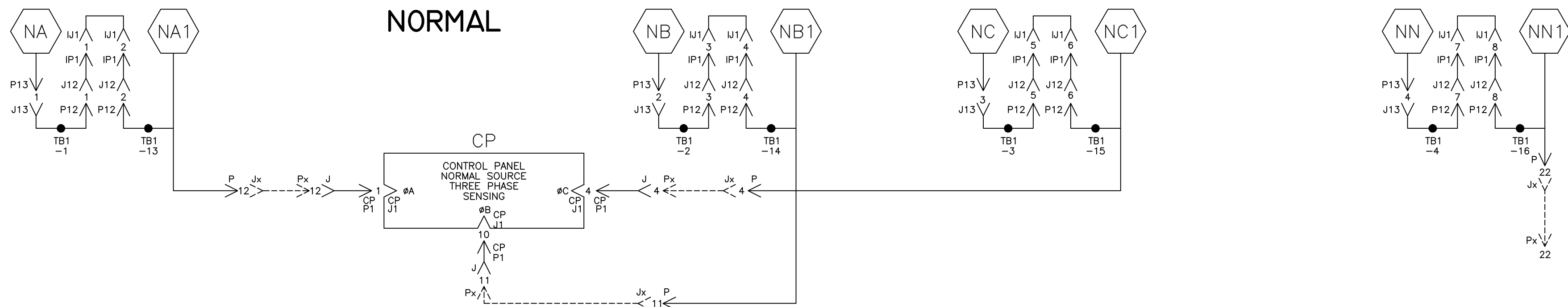
D

C

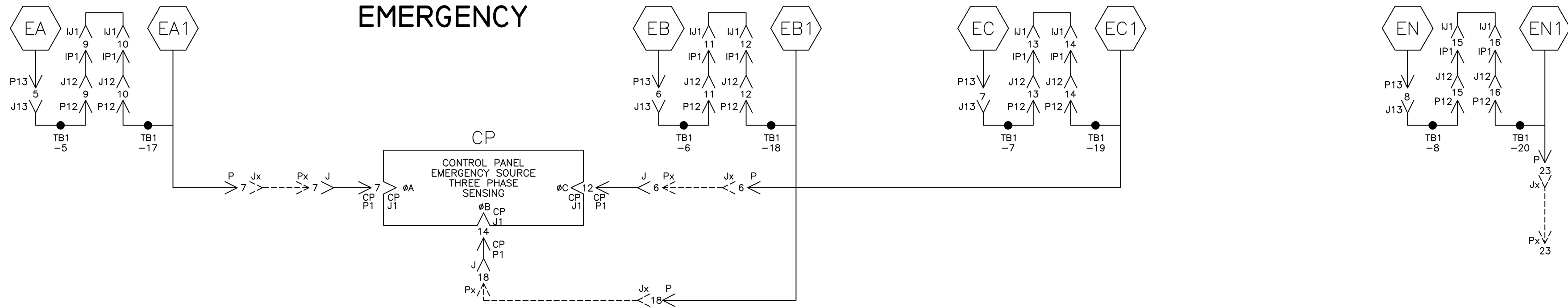
B

A

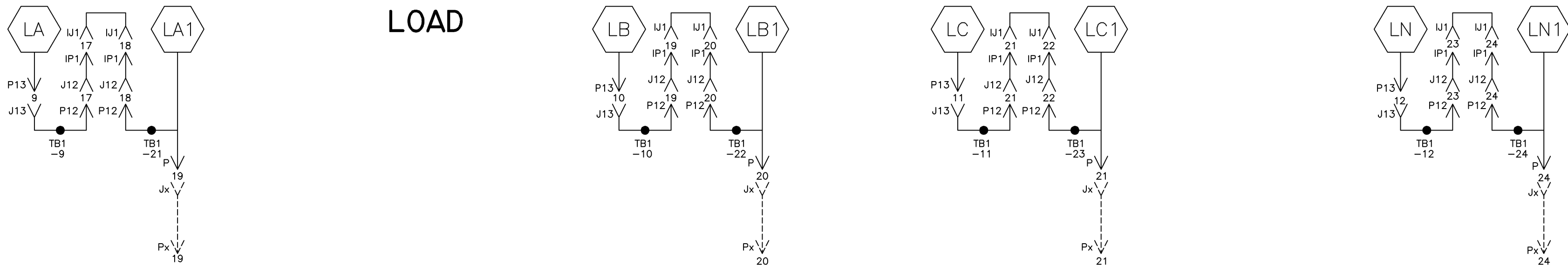
NORMAL SOURCE CIRCUITS



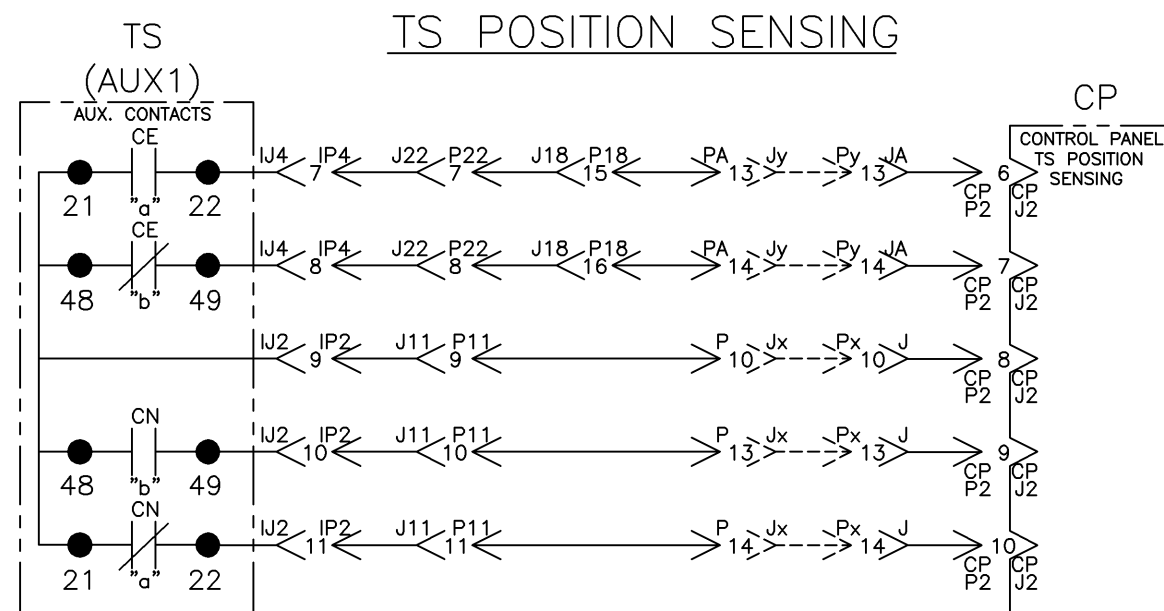
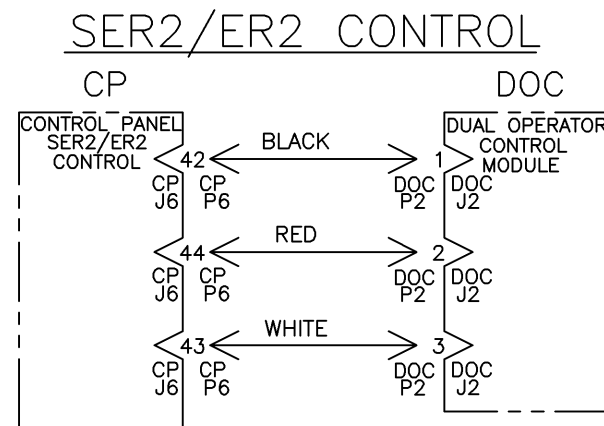
EMERGENCY SOURCE CIRCUITS



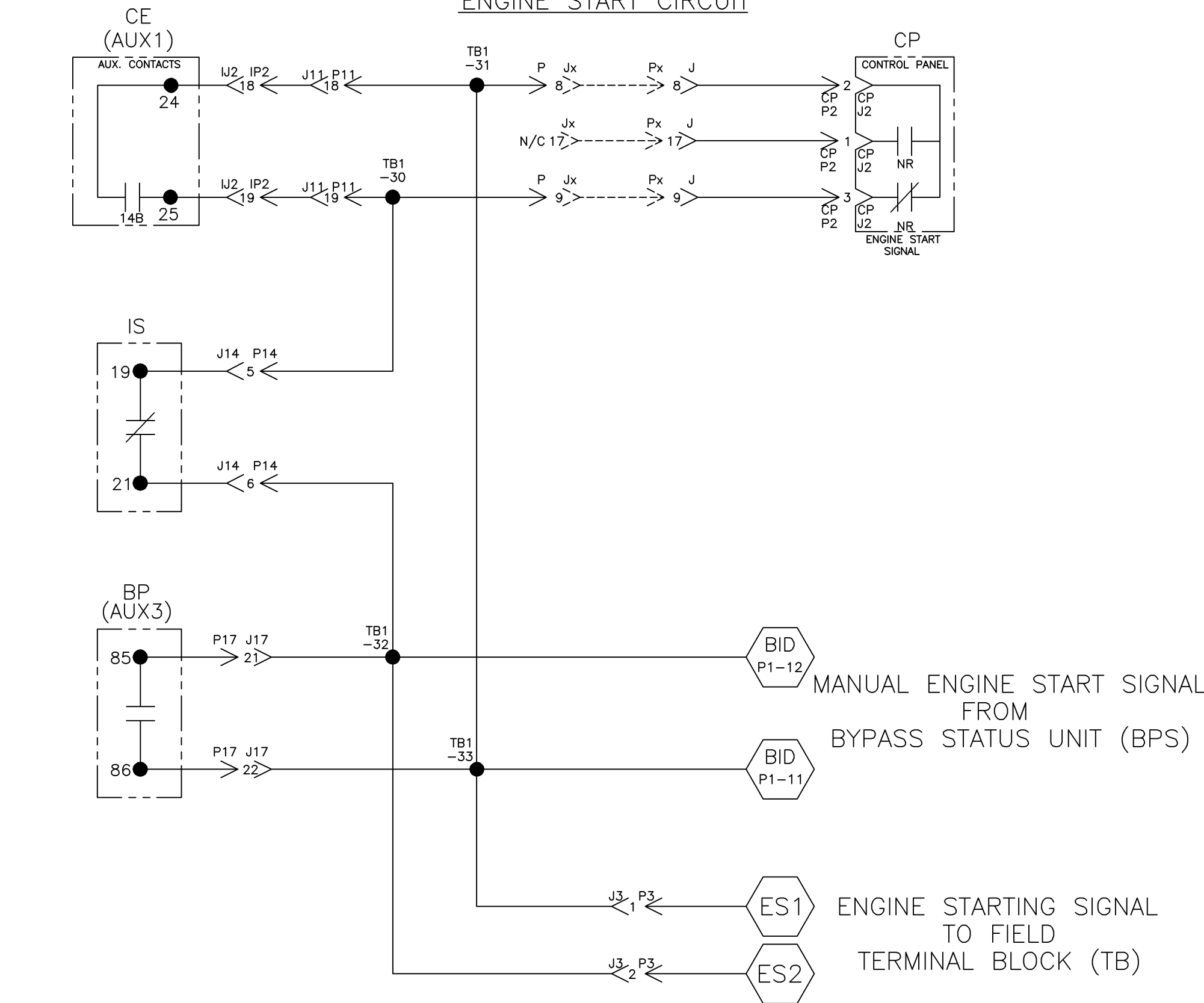
LOAD TERMINAL CIRCUITS



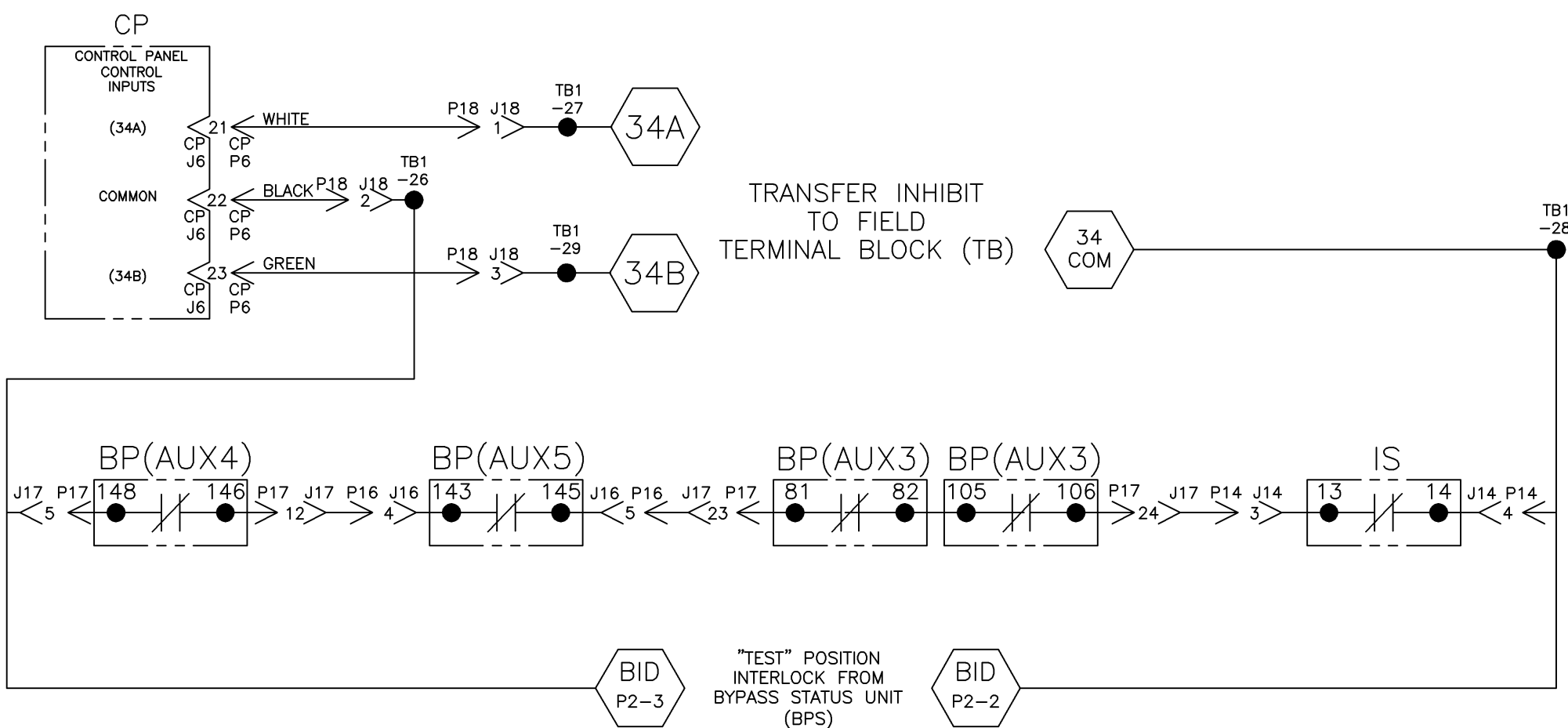
CONTROL SIGNALS & INDICATION



ENGINE START CIRCUIT



CONTROL PANEL/BYPASS-ISOLATION INTERLOCKS



| | | | | | | |
|-----------------------------|-----|---------------|----------|---|-----------------|---|
| PROJECT NAME: | | REV. TO SHEET | ECN NO. | BY | APP. | DATE |
| WIRING | | | | | | |
| 7000 SERIES (J7ADTB) | | | | | | |
| "J" FRAME, GROUP 5 CONTROLS | | | | | | |
| DRAWN BY | JPB | DATE | 10/12/06 | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055. | ASSEM. REF. NO. | COMPUTER GENERATED DRAWING |
| CHECKED | | | | PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. | | SCALE 1:1 SIZE DS |
| PROJECT APPROVAL | | | | | | DWG. NO. 806099 |
| FINAL APPROVAL | JPB | DATE | 10/12/06 | ASCO POWER TECHNOLOGIES, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A. | | DRAWING REV. D ECN NO. 212251 SHEET 5 OF 10 |

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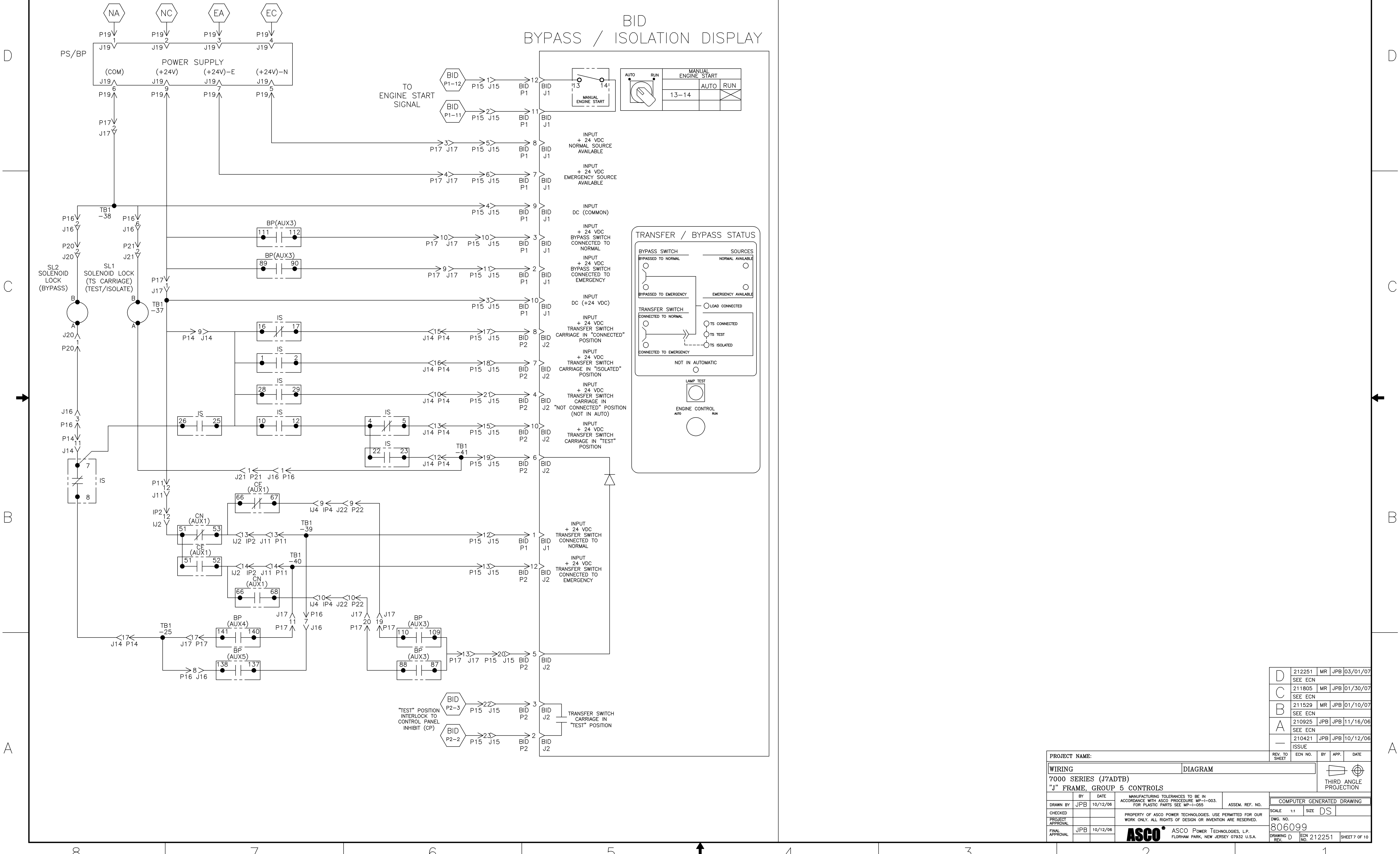
ADDITIONAL CIRCUITS

| | | | | |
|---------|--------|-----|-----|----------|
| D | 212251 | MR | JPB | 03/01/07 |
| SEE ECN | | | | |
| C | 211805 | MR | JPB | 01/30/07 |
| SEE ECN | | | | |
| B | 211529 | MR | JPB | 01/10/07 |
| SEE ECN | | | | |
| A | 210925 | JPB | JPB | 11/16/06 |
| SEE ECN | | | | |
| — | 210421 | JPB | JPB | 10/12/06 |
| ISSUE | | | | |

| | | | | | | | |
|-----------------------------|-----|----------|---|---------|---|------|------|
| PROJECT NAME: | | | REV. TO SHEET | ECN NO. | BY | APP. | DATE |
| WIRING | | | DIAGRAM | | | | |
| 7000 SERIES (J7ADTB) | | | | | | | |
| "J" FRAME, GROUP 5 CONTROLS | | | | | | | |
| DRAWN BY | JPB | 10/12/06 | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055 | | ASSEM. REF. NO. | | |
| CHECKED | | | PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. | | COMPUTER GENERATED DRAWING | | |
| PROJECT APPROVAL | | | DWG. NO. 806099 | | SCALE 1:1 SIZE DS | | |
| FINAL APPROVAL | JPB | 10/12/06 | ASCOPower Technologies, L.P. FLORHAM PARK, NEW JERSEY 07932 U.S.A. | | DRAWING REV. D ECN NO. 212251 SHEET 6 OF 10 | | |

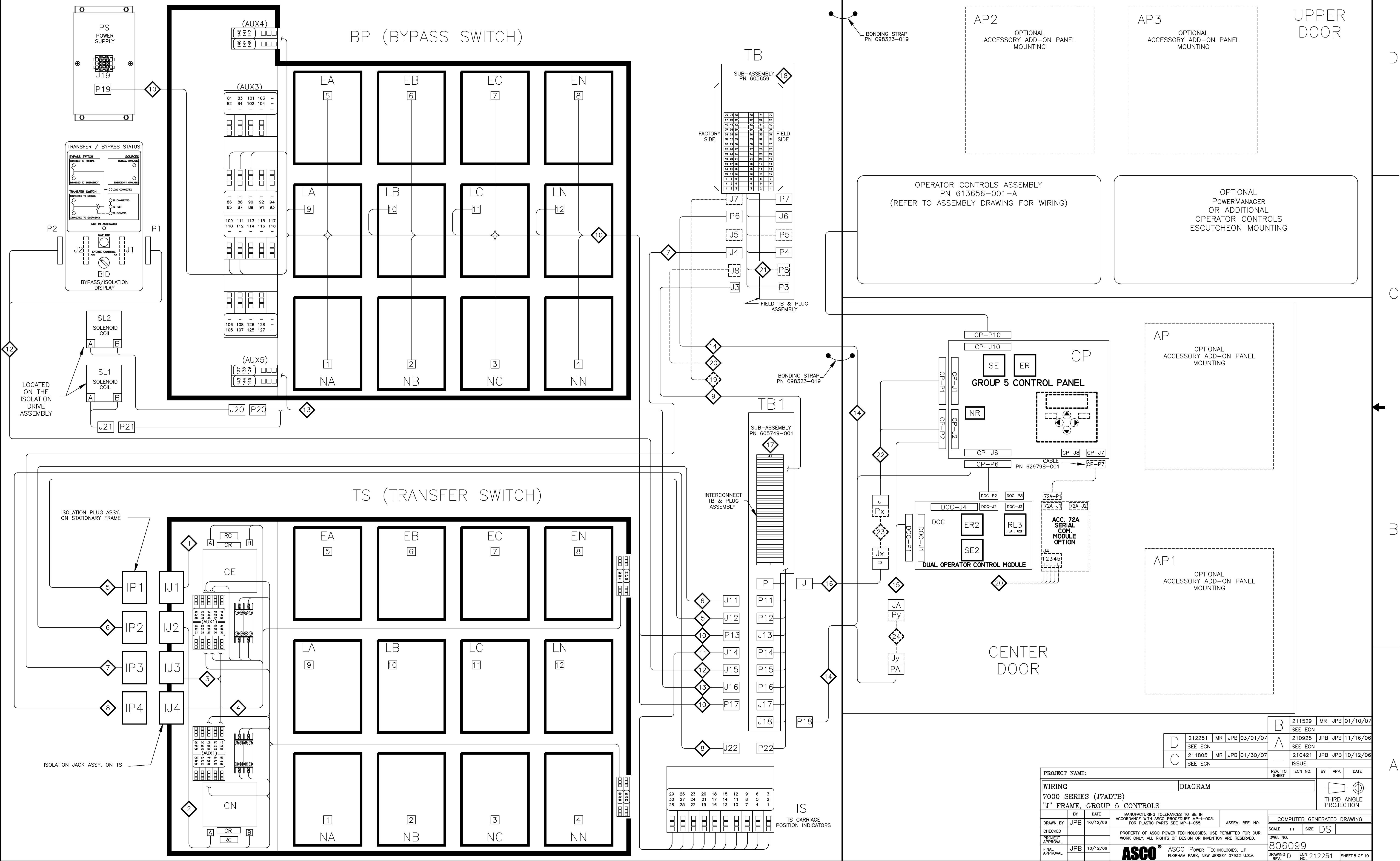
BYPASS / ISOLATION INTERLOCKING & INDICATION

BID
BYPASS / ISOLATION DISPLAY




| | | | | | | |
|-----------------------------|-----|---------------|----------|---|--------|---------------|
| PROJECT NAME: | | REV. TO SHEET | ECN NO. | BY | APP. | DATE |
| WIRING | | DIAGRAM | | | | |
| 7000 SERIES (J7ADTB) | | | | | | |
| "J" FRAME, GROUP 5 CONTROLS | | | | | | |
| DRAWN BY | JPB | DATE | 10/12/06 | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-I-003. FOR PLASTIC PARTS SEE MP-I-055. | | |
| CHECKED | | | | ASSEM. REF. NO. | | |
| PROJECT APPROVAL | | | | PROPERTY OF ASCO POWER TECHNOLOGIES. USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. | | |
| FINAL APPROVAL | JPB | DATE | 10/12/06 | COMPUTER GENERATED DRAWING | | |
| | | DWG. NO. | | SCALE | 1:1 | SIZE |
| | | 806099 | | | | DS |
| | | DRAWING REV. | | ECN NO. | 212251 | SHEET 7 OF 10 |

PHYSICAL DIAGRAM




WIRE RUN LISTING

| | | | |
|--|--|---|----------------|
| <div><div>1</div><div></div></div> <div>HARNESS LOCATOR</div> | | <div>BOX CHECKED IF HARNESS IS WORN</div> <div><input type="checkbox"/></div> | |
| <div>WIRE No.</div> | <div>HARNESS 605674-001</div> <div>(U1) TS</div> | <div>CLR</div> | <div>AWG</div> |
| 1 | U1-1,U1-2 | | 16 |
| 2 | U1-3,U1-4 | | |
| 3 | U1-5,U1-6 | | |
| 4 | U1-7,U1-8 | | |
| 5 | U1-9,U1-10 | | |
| 6 | U1-11,U1-12 | | |
| 7 | U1-13,U1-14 | | |
| 8 | U1-15,U1-16 | | |
| 9 | U1-17,U1-18 | | |
| 10 | U1-19,U1-20 | | |
| 11 | U1-21,U1-22 | | |
| 12 | U1-23,U1-24 | | |

[illegible][illegible]

| | | | | |
|--------------|---------------------------------|--|--|--------------------------|
| 4 | HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | <input type="checkbox"/> |
| WIRE No. | HARNESS 806064-003-A (U4) TS | | CLR | AWG |
| 228 | IJ4-1,CE-CR-AC1 | | | 16 |
| 229 | IJ4-2,CE-CR-AC2 | | | |
| 320 | IJ4-3,CE-14 | | | |
| 322 | IJ4-4,CE-18 | | | |
| 321 | IJ4-5,CE-16 | | | |
| 323 | IJ4-6,CE-20 | | | |
| 324 | IJ4-7,CE(AUX1)-22 | | | |
| 325 | IJ4-8,CE(AUX1)-49 | | | |
| REMOVE WIRES | | | | |

[illegible][illegible]

| 6 |  HARNESS LOCATOR | BOX CHECKED IF HARNESS IS MODIFIED | <input type="checkbox"/> |
|----------|---|------------------------------------|--------------------------|
| WIRE No. | HARNESS 605674-006-D (IP2,J11) STANDARD FRAME | CLR | AWG |
| 1 | IP2-1,J11-1 | | 16 |
| 21 | IP2-2,J11-2 | | |
| 3 | IP2-3,J11-3 | | |
| 5 | IP2-4,J11-4 | | |
| 24 | IP2-5,J11-5 | | |
| 7 | IP2-6,J11-6 | | |
| 14 | IP2-7,J11-7 | | |
| 15 | IP2-8,J11-8 | | |
| 28 | IP2-9,J11-9 | | |
| 30 | IP2-10,J11-10 | | |
| 29 | IP2-11,J11-11 | | |
| 31 | IP2-12,J11-12 | | |
| 32 | IP2-13,J11-13 | | |
| 33 | IP2-14,J11-14 | | |
| 34 | IP2-15,J11-15 | | |
| 35 | IP2-16,J11-16 | | |
| 36 | IP2-17,J11-17 | | |
| 120 | IP2-18,J11-18 | | |
| 38 | IP2-19,J11-19 | | |
| 39 | IP2-20,J11-20 | | |
| 40 | IP2-21,J11-21 | | |
| 41 | IP2-22,J11-22 | | |
| 42 | IP2-23,J11-23 | | |
| 43 | IP2-24,J11-24 | | |

[illegible]

| | | | |
|---|--|---|-----|
| <div><div><div></div></div></div> — HARNESS LOCATOR | | <div>BOX CHECKED IF HARNESS IS WOODED</div> <div></div> | |
| WIRE No. | HARNESS 605674-006-C (IP3,J4) STATIONARY FRAME | CLR | AWG |
| 50 | IP3-1,J4-1 | | 16 |
| 51 | IP3-2,J4-2 | | |
| 52 | IP3-3,J4-3 | | |
| 53 | IP3-4,J4-4 | | |
| 54 | IP3-5,J4-5 | | |
| 55 | IP3-6,J4-6 | | |
| 56 | IP3-7,J4-7 | | |
| 57 | IP3-8,J4-8 | | |
| 58 | IP3-9,J4-9 | | |
| 59 | IP3-10,J4-10 | | |
| 60 | IP3-11,J4-11 | | |
| 61 | IP3-12,J4-12 | | |
| 62 | IP3-13,J4-13 | | |

[illegible]


| | | | | |
|--------------------------------|---------------|---|-----|-----|
| <div>8 ← HARNESS LOCATOR</div> | | <div>BOX CHECKED IF HARNESS IS MODIFIED</div> <div><input type="checkbox"/></div> | | |
| WIRE No. | | HARNESS 605674-006-B (IP4 J22) STATIONARY FRAME | CLR | AWG |
| 228 | IP4-1,J22-1 | | | 16 |
| 229 | IP4-2,J22-2 | | | |
| 320 | IP4-3,J22-3 | | | |
| 322 | IP4-4,J22-4 | | | |
| 321 | IP4-5,J22-5 | | | |
| 323 | IP4-6,J22-6 | | | |
| 324 | IP4-7,J22-7 | | | |
| 325 | IP4-8,J22-8 | | | |
| 420 | IP4-9,J22-9 | | | |
| 421 | IP4-10,J22-10 | | | |

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|-----|--------|--------------|--|
| | | | |
| | | REMOVE WIRES | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | ADD WIRES | |
| 326 | IP4-11 | | |
| 327 | IP4-12 | | |
| 328 | IP4-13 | | |
| 329 | IP4-14 | | |
| 330 | IP4-15 | | |
| 331 | IP4-16 | | |
| 332 | IP4-17 | | |
| 333 | IP4-18 | | |
| 334 | IP4-19 | | |
| 335 | IP4-20 | | |
| 336 | IP4-21 | | |
| 337 | IP4-22 | | |
| 338 | IP4-23 | | |
| 339 | IP4-24 | | |

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| | | | | |
| | | | | |

9 ← HARNESS LOCATOR
 BOX CHECKED IF HARNESS IS MODIFIED ☐

| WIRE No. | HARNESS 605674-007-A (J3,TB1) ENGINE START | CLR | AWG |
|-----------------|---|-----|-----|
| 120 J3-1,TB1-33 | | | 16 |
| 121 J3-2,TB1-32 | | | |
| | | | |
| ADD WIRES | | | |
| 122 J3-3 | | | |
| 123 J3-4 | | | |
| | | | |
| | | | |


| | | | |
|---|--|---|-----|
|  — HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED <input checked="checked" type="checkbox"/> | |
| WIRE No. | HARNESS 806064-004 (P13, P17, P19, BP) BP | CLR | AWG |
| 1 | P13-1, BP-1 | | 16 |
| 1 | BP-1, P19-1 | | |
| 2 | P13-2, BP-2 | | |
| 3 | P13-3, BP-3 | | |
| 3 | BP-3, P19-2 | | |
| 4 | P13-4, BP-4 | | |
| 5 | P13-5, BP-5 | | |
| 5 | BP-5, P19-3 | | |
| 6 | P13-6, BP-6 | | |
| 7 | P13-7, BP-7 | | |
| 7 | BP-7, P19-4 | | |
| 8 | P13-8, BP-8 | | |
| 9 | P13-9, BP-9 | | |

| | | |
|-----|----------------------------|--|
| 11 | P13-11, BP-11 | |
| 12 | P13-12, BP-12 | |
| 31 | P17-1, BP(AUX3)-111 | |
| 170 | P17-2, P19-6 | |
| 171 | P17-3, P19-5 | |
| 172 | P17-4, P19-7 | |
| 191 | P17-5, BP(AUX4)-148 | |
| 177 | P17-9, BP(AUX3)-90 | |
| 176 | P17-10, BP(AUX3)-112 | |
| 33 | P17-11, BP(AUX3)-88 | |
| 33 | BP(AUX3)-88, BP(AUX4)-140 | |
| 173 | P17-12, BP(AUX4)-146 | |
| 32 | BP(AUX3)-111, BP(AUX3)-137 | |
| 49 | P17-13, BP(AUX3)-87 | |
| 49 | BP(AUX3)-87, BP(AUX3)-109 | |
| 190 | P17-17, BP(AUX4)-141 | |
| 121 | P17-21, BP(AUX3)-85 | |
| 120 | P17-22, BP(AUX3)-86 | |
| 31 | P19-3, BP(AUX3)-89 | |
| 31 | BP(AUX3)-89, BP(AUX3)-111 | |
| 501 | BP(AUX3)-82, BP(AUX3)-105 | |
| 500 | P17-23, BP(AUX3)-81 | |
| 150 | P17-24, BP(AUX3)-106 | |

| | | |
|-----|----------------------------|--|
| | REMOVE WIRES | |
| 33 | P17-11, BP(AUX3)-88 | |
| 33 | BP(AUX3)-88, BP(AUX4)-140 | |
| 32 | BP(AUX3)-110, BP(AUX5)-137 | |
| | | |
| | ADD WIRES | |
| 26 | P13-13 | |
| 140 | P13-14 | |
| 27 | P13-15 | |
| 340 | P13-16 | |
| 341 | P13-17 | |
| 342 | P13-18 | |
| 343 | P13-19 | |
| 344 | P13-20 | |
| 345 | P13-21 | |
| 346 | P13-22 | |
| 347 | P13-23 | |
| 348 | P13-24 | |

| | | |
|-----|----------------------|--|
| 174 | P17-6 | |
| 504 | P17-7 | |
| 175 | P17-8 | |
| 33 | P17-11, BP(AUX4)-140 | |
| 178 | P17-14 | |
| 505 | P17-15 | |
| 189 | P17-16 | |
| 506 | P17-18 | |
| 420 | P17-19, BP(AUX3)-110 | |
| 421 | P17-20, BP(AUX3)-88 | |


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|  HARNES LOCATOR | | BOX CHECKED IF HARNES IS MOVED | |
|---|--|--------------------------------------|-----|
| WIRE No. | HARNES 806064-007 (J14,IS) ISOLATION AUX. CONTACTS | CLR | AWG |
| 150 | J14-3,IS-13 | | 16 |
| 151 | J14-4,IS-14 | | |
| 38 | J14-5,IS-19 | | |
| 121 | J14-6,IS-21 | | |
| 31 | J14-9,IS-10 | | |
| 152 | J14-10,IS-29 | | |
| 153 | J14-11,IS-26 | | |
| 154 | J14-12,IS-23 | | |
| 155 | J14-13,IS-5 | | |
| 157 | J14-15,IS-17 | | |
| 158 | J14-16,IS-2 | | |
| 190 | J14-17,IS-8 | | |
| 31 | IS-10,IS- | | |
| 31 | IS-11,IS-16 | | |
| 31 | IS-16,IS-25 | | |
| 31 | IS-25,IS-28 | | |
| 159 | IS-12,IS-22 | | |
| 159 | IS-12,IS-4 | | |
| 153 | IS-7,IS-26 | | |

| | | | |
|-----|--------|--------------|--|
| | | REMOVE WIRES | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | ADD WIRES | |
| 507 | J14-1 | | |
| 160 | J14-2 | | |
| 169 | J14-7 | | |
| 168 | J14-8 | | |
| 156 | J14-14 | | |
| 161 | J14-18 | | |
| 162 | J14-19 | | |
| 163 | J14-20 | | |
| 164 | J14-21 | | |
| 165 | J14-22 | | |
| 166 | J14-23 | | |
| 167 | J14-24 | | |

| | | | |
|--|--|---|----------------|
| <div><div><div>12</div><div></div></div><div>HARNESS LOCATOR</div></div> | | <div>BOX CHECKED IF HARNESS IS MODIFIED</div> <div><input type="checkbox"/></div> | |
| <div>WIRE No.</div> | <div>HARNESS 736883 (J15, BID-P1, BID-P2) BYPASS ISOLATION DISPLAY</div> | <div>CLR</div> | <div>AWG</div> |
| 121 | J15-1,BID-P1-12 | | 22 |
| 120 | J15-2,BID-P1-11 | | |
| 31 | J15-3,BID-P1-10 | | |
| 170 | J15-4,BID-P1-9 | | |
| 171 | J15-5,BID-P1-8 | | |
| 172 | J15-6,BID-P1-7 | | |
| 176 | J15-10,BID-P1-3 | | |
| 177 | J15-11,BID-P1-2 | | |
| 32 | J15-12,BID-P1-1 | | |
| 33 | J15-13,BID-P2-12 | | |
| 155 | J15-15,BID-P2-10 | | 22 |
| 157 | J15-17,BID-P2-8 | | |

| | | |
|-----|-----------------|--|
| 154 | J15-19,BID-P2-6 | |
| 149 | J15-20,BID-P2-5 | |
| 152 | J15-21,BID-P2-4 | |
| 191 | J15-22,BID-P2-3 | |
| 151 | J15-23,BID-P2-2 | |
| | | |
| | ADD WIRES | |
| 389 | J15-7 | |
| 390 | J15-8 | |
| 391 | J15-9 | |
| 395 | J15-14 | |
| 508 | J15-16 | |
| 405 | J15-24 | |
| | | |
| | | |

|  — HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED <input type="checkbox"/> | |
|---|---|---|-----|
| WIRE No. | HARNESS 806064-006 (J16, P20, P21) BP/IS INTERLOCKS | CLR | AWG |
| 154 | J16-1,P21-1 | | 16 |
| 170 | J16-2,P20-2 | | |
| 153 | J16-3,P20-2 | | |
| 173 | J16-4,BP(AUX5)-143 | | |
| 500 | J16-5,BP(AUX5)-145 | | |
| 170 | J16-6,P21-2 | | |
| 32 | J16-7,BP(AUX5)-137 | | |
| 190 | J16-8,BP(AUX5)-138 | | |

| | | | |
|-----|--------|-----------|--|
| | | ADD WIRES | |
| 524 | J16-9 | | |
| 525 | J16-10 | | |
| 526 | J16-11 | | |
| 527 | J16-12 | | |
| 528 | J16-13 | | |
| 529 | J16-14 | | |
| 530 | J16-15 | | |
| 531 | J16-16 | | |
| 532 | J16-17 | | |
| 533 | J16-18 | | |
| 534 | J16-19 | | |
| 535 | J16-20 | | |
| 536 | J16-21 | | |
| 537 | J16-22 | | |
| 538 | J16-23 | | |
| 539 | J16-24 | | |

| 14 | HARNESS LOCATOR | | BOX CHECKED IF HARNESS IS MODIFIED | |
|----|-----------------|---|------------------------------------|----------|
| | WIRE NO. | HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TRF) INTERNAL CONTROL & FIELD INPUTS | CLR | AWG |
| | 210 | P18-1,CP-P6-21 | WHT | 22 |
| | 191 | P18-2,CP-P6-22 | BLK | (4 COND) |
| | 211 | P18-3,CP-P6-23 | GRN | |
| | 210 | P18-4,P6-1 | | 16 |
| | 151 | P18-5,P6-2 | | |
| | 211 | P18-6,P6-3 | | |
| | 324 | P18-15,P6-13 | | |
| | 325 | P18-16,P6-14 | | |
| | 36 | P18-17,PA-17 | | |
| | 35 | P18-18,PA-18 | | |
| | 228 | P18-19,PA-2 | | |
| | 229 | P18-20,PA-5 | | |
| | 320 | P18-21,PA-3 | | |
| | 322 | P18-22,PA-1 | | |
| | 321 | P18-23,PA-15 | | |
| | 323 | P18-24,PA-16 | | |
| | 243 | P6-4,CP-P6-9 | BLK | 22 |
| | 244 | P6-5,CP-P6-10 | RED | (2 COND) |
| | 313 | CP-P6-42,DOC-P2-1 | BLK | |
| | 314 | CP-P6-43,DOC-P2-2 | RED | |
| | 315 | CP-P6-44,DOC-P2-3 | WHT | 22 |
| | 316 | CP-P6-24,DOC-P2-6 | GRN | 22 |
| | 318 | CP-P6-40,TRF-A | BLK | (4 COND) |
| | 317 | CP-P6-41,TRF-B | RED | (2 COND) |
| | | REMOVE WIRES | | |
| | 316 | CP-P6-24,DOC-P2-6 | GRN | |
| | 318 | CP-P6-40,TRF-A | BLK | |
| | 317 | CP-P6-41,TRF-B | RED | |


[illegible]

| <div> <div>4</div> <div>HARNESS LOCATOR</div> <div> <div> <div>box checked if harness is wired</div> <div></div> </div> </div> </div> | | |
|---|---|-----|
| WIRE No. | HARNESS 736828-004-A (PA,P6,P18,CP-P6,DOC-P2,TFR) INTERNAL CONTROL & FIELD INPUTS (CONTINUED...) | CLR |
| | ADD WIRES | |
| 245 | P6-6 | |
| 246 | P6-7 | |
| 247 | P6-8 | |
| 248 | P6-9 | |
| 249 | P6-10 | |
| 250 | P6-11 | |
| 251 | P6-12 | |
| 252 | P6-13 | |
| 253 | P6-14 | |
| 254 | P6-15 | |

| | | |
|-----|-------|--|
| 256 | P6-17 | |
| 257 | P6-18 | |
| 258 | P6-19 | |
| 259 | P6-20 | |
| 260 | P6-21 | |
| 261 | P6-22 | |
| 262 | P6-23 | |
| 263 | P6-24 | |
| | | |
| 509 | PA-4 | |
| 510 | PA-6 | |
| 511 | PA-7 | |
| 512 | PA-8 | |
| 513 | PA-9 | |
| 514 | PA-10 | |
| 515 | PA-11 | |
| 516 | PA-12 | |
| 517 | PA-19 | |
| 349 | PA-20 | |
| 350 | PA-21 | |
| 351 | PA-22 | |
| 352 | PA-23 | |
| 353 | PA-24 | |
| | | |
| | | |
| | | |

| <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">15</div> <div>← HARNESS LOCATOR</div> </div> | | <div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">BOX CHECKED IF HARNESS IS MODIFIED</div> <div style="border: 1px solid black; width: 20px; height: 20px; margin-left: 5px;"></div> </div> | |
|---|---|--|-----|
| WIRE No. | HARNESS 619385 (JA,CP-P2,D0C-P1) IS MODIFIED | CLR | AWG |
| 228 | JA-2,D0C-P1-15 | | 16 |
| 320 | JA-3,D0C-P1-2 | | |
| 322 | JA-1,D0C-P1-8 | | |
| 323 | JA-16,D0C-P1-13 | | |
| 321 | JA-15,D0C-P1-5 | | |
| 229 | JA-5,D0C-P1-17 | | |
| 324 | JA-13,CP-P2-6 | PIN | |
| 325 | JA-14,CP-P2-7 | PIN | |

[illegible][illegible]

| | | | |
|---|-------------------------------|--|-----|
|  HARNES LOCATOR | | BOX CHECKED IF HARNES IS MODIFIED <input type="checkbox"/> | |
| WIRE | HARNES 309320-006 | CLR | AWG |
| No. | (P,J) CONTROL PANEL EXTENSION | | |
| 39 | P-1,J-1 | | 16 |
| 14 | P-2,J-2 | | |
| 21 | P-3,J-3 | | |
| 3 | P-4,J-4 | | |
| 15 | P-5,J-5 | | |
| 7 | P-6,J-6 | | |
| 5 | P-7,J-7 | | |
| 120 | P-8,J-8 | | |
| 38 | P-9,J-9 | | |
| 28 | P-10,J-10 | | |
| 2 | P-11,J-11 | | |
| 1 | P-12,J-12 | | |
| 30 | P-13,J-13 | | |

| | | |
|-----|-----------|--|
| 40 | P-15,J-15 | |
| 24 | P-16,J-16 | |
| 312 | P-17,J-17 | |
| 6 | P-18,J-18 | |
| 9 | P-19,J-19 | |
| 10 | P-20,J-20 | |
| 11 | P-21,J-21 | |
| 4 | P-22,J-22 | |
| 8 | P-23,J-23 | |
| 12 | P-24,J-24 | |
| | | |
| | | |
| | | |

| | | | | |
|---|---------|-----|-----|----------|
| D | 212251 | MR | JPB | 03/01/07 |
| | SEE ECN | | | |
| C | 211805 | MR | JPB | 01/30/07 |
| | SEE ECN | | | |
| B | 211529 | MR | JPB | 01/10/07 |
| | SEE ECN | | | |
| A | 210925 | JPB | JPB | 11/16/06 |
| | SEE ECN | | | |
| — | 210421 | JPB | JPB | 10/12/06 |
| | ISSUE | | | |

| | | | | | | | | |
|-----------------------------|------|--|---|-----------------|---------|----------------------------|--------|---------------|
| PROJECT NAME: | | | | REV. TO SHEET | ECN NO. | BY | APP. | DATE |
| WIRING | | | | DIAGRAM | | | | |
| 7000 SERIES (J7ADTB) | | | | | | | | |
| "J" FRAME, GROUP 5 CONTROLS | | | | | | | | |
| BY | DATE | MANUFACTURING TOLERANCES TO BE IN ACCORDANCE WITH ASCO PROCEDURE MP-10-003. FOR PLASTIC PARTS SEE MP-1-055 | | ASSEM. REF. NO. | | COMPUTER GENERATED DRAWING | | |
| DRAWN BY | JPB | 10/12/06 | | | | SCALE | 1:1 | SIZE DS |
| CHECKED PROJECT APPROVAL | | | PROPERTY OF ASCO POWER TECHNOLOGIES, USE PERMITTED FOR OUR WORK ONLY. ALL RIGHTS OF DESIGN OR INVENTION ARE RESERVED. | | | DWG. NO. 806099 | | |
| FINAL APPROVAL | JPB | 10/12/06 | ASCO POWER TECHNOLOGIES, L.P. FLOHARM PARK, NEW JERSEY 07932 U.S.A. | | | ECN | 212251 | SHEET 9 OF 10 |

WIRE RUN LISTING

| WIRE No. | SUB-ASSEMBLY 605749-001 (TB1,P,P11,P12,J13,P14,P15,P16,J17,J18) MAIN INTERCONNECT ASSEMBLY | CLR | AWG |
|----------|--|-----|-----|
| 14 | P-2,P11-7 | | 16 |
| 21 | P-3,P11-2 | | |
| 3 | P-4,TB1-15 | | |
| 15 | P-5,P11-9 | | |
| 7 | P-6,TB1-19 | | |
| 5 | P-7,TB1-17 | | |
| 120 | P-8,TB1-31 | | |
| 38 | P-9,TB1-30 | | |
| 28 | P-10,P11-9 | | |
| 2 | P-11,TB1-14 | | |
| 1 | P-12,TB1-13 | | |
| 30 | P-13,P11-10 | | |
| 29 | P-14,P11-11 | | |
| 24 | P-16,P11-5 | | |
| 6 | P-18,TB1-18 | | |
| 9 | P-19,TB1-21 | | |
| 10 | P-20,TB1-22 | | |
| 11 | P-21,TB1-23 | | |
| 4 | P-22,TB1-16 | | |
| 8 | P-23,TB1-20 | | |
| 12 | P-24,TB1-24 | | |
| 1 | P11-1,TB1-13 | | |
| 3 | P11-3,TB1-15 | | |
| 5 | P11-4,TB1-17 | | |
| 7 | P11-6,TB1-19 | | |
| 31 | P11-12,TB1-37 | | |
| 32 | P11-13,TB1-39 | | |
| 33 | P11-14,TB1-40 | | |
| 34 | P11-15,TB1-34 | | |
| 35 | P11-16,TB1-35 | | |
| 38 | P11-17,TB1-36 | | |
| 120 | P11-18,TB1-31 | | |
| 38 | P11-19,TB1-30 | | |
| 39 | P11-20,P-1 | | |
| 40 | P11-21,P-15 | | |
| 1 | P12-1,TB1-1 | | |
| 1 | P12-2,TB1-13 | | |
| 2 | P12-3,TB1-2 | | |
| 2 | P12-4,TB1-14 | | |
| 3 | P12-5,TB1-3 | | |
| 3 | P12-6,TB1-15 | | |
| 4 | P12-7,TB1-4 | | |
| 4 | P12-8,TB1-16 | | |
| 5 | P12-9,TB1-5 | | |
| 5 | P12-10,TB1-17 | | |
| 6 | P12-11,TB1-6 | | |
| 6 | P12-12,TB1-18 | | |
| 7 | P12-13,TB1-7 | | |
| 7 | P12-14,TB1-19 | | |
| 8 | P12-15,TB1-8 | | |
| 8 | P12-16,TB1-20 | | |
| 9 | P12-17,TB1-9 | | |
| 9 | P12-18,TB1-21 | | |
| 10 | P12-19,TB1-10 | | |
| 10 | P12-20,TB1-22 | | |
| 11 | P12-21,TB1-11 | | |
| 11 | P12-22,TB1-23 | | |
| 12 | P12-23,TB1-12 | | |
| 12 | P12-24,TB1-24 | | |
| 1 | J13-1,TB1-1 | | |
| 2 | J13-2,TB1-2 | | |
| 3 | J13-3,TB1-3 | | |
| 4 | J13-4,TB1-4 | | |
| 5 | J13-5,TB1-5 | | |
| 6 | J13-6,TB1-6 | | |
| 7 | J13-7,TB1-7 | | |
| 8 | J13-8,TB1-8 | | |
| 9 | J13-9,TB1-9 | | |
| 10 | J13-10,TB1-10 | | |
| 11 | J13-11,TB1-11 | | |
| 12 | J13-12,TB1-12 | | |
| 151 | P14-4,TB1-28 | | |
| 38 | P14-5,TB1-30 | | |
| 121 | P14-6,TB1-32 | | |
| 31 | P14-9,TB1-37 | | |
| 153 | P14-11,P16-3 | | |
| 154 | P14-12,TB1-41 | | |
| 155 | P14-13,P15-15 | | |
| 157 | P14-15,P15-17 | | |
| 158 | P14-16,P15-18 | | |
| 190 | P14-17,J17-17 | | |
| 121 | P15-1,TB1-32 | | |
| 120 | P15-2,TB1-33 | | |
| 31 | P15-3,TB1-37 | | |
| 170 | P15-4,TB1-38 | | |
| 171 | P15-5,J17-3 | | |
| 172 | P15-6,J17-4 | | |
| 176 | P15-10,J17-10 | | |
| 177 | P15-11,J17-9 | | |
| 32 | P15-12,TB1-39 | | |
| 33 | P15-13,TB1-40 | | |
| 154 | P15-19,TB1-41 | | |
| 149 | P15-20,J17-13 | | |
| 152 | P15-21,P14-10 | | |
| 191 | P15-22,TB1-26 | | |
| 151 | P15-23,TB1-28 | | |
| 154 | P16-1,TB1-41 | | |
| 170 | P16-2,TB1-38 | | |
| 191 | P16-4,TB1-26 | | |
| 170 | P16-6,TB1-38 | | |
| 31 | J17-1,TB1-37 | | |
| 170 | J17-2,TB1-38 | | |
| 32 | J17-11,TB1-39 | | |
| 33 | J17-12,TB1-40 | | |
| 121 | J17-21,TB1-32 | | |
| 120 | J17-22,TB1-33 | | |
| 500 | J17-23,P16-5 | | |
| 150 | J17-24,P14-3 | | |

| WIRE No. | SUB-ASSEMBLY 605749-001 (TB1,P,P11,P12,J13,P14,P15,P16,J17,J18) MAIN INTERCONNECT ASSEMBLY (CONTINUED) | CLR | AWG |
|----------|---|-----|-----|
| 210 | J18-1,TB1-27 | | 16 |
| 191 | J18-2,TB1-26 | | |
| 211 | J18-3,TB1-29 | | |
| 210 | J18-4,TB1-27 | | |
| 210 | J18-5,TB1-28 | | |
| 211 | J18-6,TB1-29 | | |
| 120 | TB1-31,TB1-33 | | |
| | REMOVE WIRES | | |
| 190 | P14-17,J17-17 | | |
| 191 | P16-4,TB1-26 | | |
| 33 | J17-12,TB1-40 | | |
| 32 | J17-11,TB1-39 | | |
| | ADD WIRES | | |
| 312 | P-17 | | |
| 41 | P11-22 | | |
| 42 | P11-23 | | |
| 43 | P11-24 | | |
| 26 | J13-13 | | |
| 140 | J13-14 | | |
| 27 | J13-15 | | |
| 340 | J13-16 | | |
| 341 | J13-17 | | |
| 342 | J13-18 | | |
| 343 | J13-19 | | |
| 344 | J13-20 | | |
| 345 | J13-21 | | |
| 346 | J13-22 | | |
| 347 | J13-23 | | |
| 348 | J13-24 | | |
| 507 | P14-1 | | |
| 160 | P14-2 | | |
| 169 | P14-7 | | |
| 168 | P14-8 | | |
| 156 | P14-14 | | |
| 190 | P14-17,TB1-25 | | |
| 161 | P14-18 | | |
| 162 | P14-19 | | |
| 163 | P14-20 | | |
| 164 | P14-21 | | |
| 165 | P14-22 | | |
| 166 | P14-23 | | |
| 167 | P14-24 | | |
| 389 | P15-7 | | |
| 390 | P15-8 | | |
| 391 | P15-9 | | |
| 395 | P15-14 | | |
| 508 | P15-16 | | |
| 405 | P15-24 | | |
| 173 | P16-4,J17-12 | | |
| 32 | P16-7,TB1-39 | | |
| 190 | P16-8,TB1-25 | | |
| 524 | P16-9 | | |
| 525 | P16-10 | | |
| 526 | P16-11 | | |
| 527 | P16-12 | | |
| 528 | P16-13 | | |
| 529 | P16-14 | | |
| 530 | P16-15 | | |
| 531 | P16-16 | | |
| 532 | P16-17 | | |
| 533 | P16-18 | | |
| 534 | P16-19 | | |
| 535 | P16-20 | | |
| 536 | P16-21 | | |
| 537 | P16-22 | | |
| 538 | P16-23 | | |
| 539 | P16-24 | | |
| 191 | J17-5,TB1-26 | | |
| 174 | J17-6 | | |
| 504 | J17-7 | | |
| 175 | J17-8 | | |
| 33 | J17-11,TB1-40 | | |
| 178 | J17-14 | | |
| 505 | J17-15 | | |
| 189 | J17-16 | | |
| 190 | J17-17,TB1-25 | | |
| 506 | J17-18 | | |
| 420 | J17-19,P22-9 | | |
| 421 | J17-20,P22-10 | | |
| 215 | J18-7 | | |
| 216 | J18-8 | | |
| 217 | J18-9 | | |
| 218 | J18-10 | | |
| 219 | J18-11 | | |
| 220 | J18-12 | | |
| 221 | J18-13 | | |
| 222 | J18-14 | | |
| 324 | J18-15,P22-7 | | |
| 325 | J18-16,P22-8 | | |
| 36 | J18-17 | | |
| 35 | J18-18 | | |
| 228 | J18-19,P22-1 | | |
| 229 | J18-20,P22-2 | | |
| 320 | J18-21,P22-3 | | |
| 322 | J18-22,P22-4 | | |
| 321 | J18-23,P22-5 | | |
| 323 | J18-24,P22-6 | | |

| WIRE No. | SUB-ASSEMBLY 605659 (P3,P4,J6,P7,TB) STD. FIELD TB | CLR | AWG |
|----------|---|-----|-----|
| 120 | TB-1,P3-1 | | 16 |
| 121 | TB-2,P3-2 | | |
| 122 | TB-3,P3-3 | | |
| 50 | TB-4,P4-1 | | |
| 51 | TB-5,P4-2 | | |
| 52 | TB-6,P4-3 | | |
| 53 | TB-7,P4-4 | | |
| 54 | TB-8,P4-5 | | |
| 55 | TB-9,P4-6 | | |
| 56 | TB-10,P4-7 | | |
| 57 | TB-11,P4-8 | | |
| 58 | TB-12,P4-9 | | |
| 59 | TB-13,P4-10 | | |
| 61 | TB-14,P4-12 | | |
| 60 | TB-15,P4-11 | | |
| 62 | TB-16,P4-13 | | |
| 64 | TB-17,P4-15 | | |
| 63 | TB-18,P4-14 | | |
| 65 | TB-19,P4-16 | | |
| 67 | TB-20,P4-18 | | |
| 66 | TB-21,P4-17 | | |
| 68 | TB-22,P4-19 | | |
| 70 | TB-23,P4-21 | | |
| 69 | TB-24,P4-20 | | |
| 71 | TB-25,P4-22 | | |
| 73 | TB-26,P4-24 | | |
| 72 | TB-27,P4-23 | | |
| 210 | TB-28,J6-1 | | |
| 151 | TB-29,J6-2 | | |
| 211 | TB-30,J6-3 | | |
| 243 | TB-31,J6-4 | | |
| 244 | TB-32,J6-5 | | |
| 270 | TB-34,P7-1 | | |
| 271 | TB-35,P7-2 | | |
| 272 | TB-36,P7-3 | | |
| | JUMPERS | | |
| | TB-28,TB-29 | | |
| | TB-29,TB-30 | | |
| | ADD WIRES | | |
| 123 | P3-4 | | |
| 245 | J6-6 | | |
| 246 | J6-7 | | |
| 247 | J6-8 | | |
| 248 | J6-9 | | |
| 249 | J6-10 | | |
| 250 | J6-11 | | |
| 251 | J6-12 | | |
| 252 | J6-13 | | |
| 253 | J6-14 | | |
| 254 | J6-15 | | |
| 255 | J6-16 | | |
| 256 | J6-17 | | |
| 257 | J6-18 | | |
| 258 | J6-19 | | |
| 259 | J6-20 | | |
| 260 | J6-21 | | |
| 261 | J6-22 | | |
| 262 | J6-23 | | |
| 263 | J6-24 | | |
| 273 | P7-4 | | |
| 274 | P7-5 | | |
| 275 | P7-6 | | |
| 276 | P7-7 | | |
| 277 | P7-8 | | |
| 278 | P7-9 | | |
| 279 | P7-10 | | |
| 280 | P7-11 | | |
| 281 | P7-12 | | |
| 282 | P7-13 | | |
| 283 | P7-14 | | |
| 284 | P7-15 | | |
| 285 | P7-16 | | |
| 286 | P7-17 | | |
| 287 | P7-18 | | |
| 288 | P7-19 | | |
| 289 | P7-20 | | |
| 290 | P7-21 | | |
| 291 | P7-22 | | |
| 292 | P7-23 | | |
| 293 | P7-24 | | |

| WIRE No. | HARNESS (J7) OPTIONAL FIELD OUTPUTS | CLR | AWG |
|----------|-------------------------------------|-----|-----|
| 270 | J7-1 | | 16 |
| 271 | J7-2 | | |
| 272 | J7-3 | | |
| 273 | J7-4 | | |
| 274 | J7-5 | | |
| 275 | J7-6 | | |
| 276 | J7-7 | | |
| 277 | J7-8 | | |
| 278 | J7-9 | | |
| 279 | J7-10 | | |
| 280 | J7-11 | | |
| 281 | J7-12 | | |
| 282 | J7-13 | | |
| 283 | J7-14 | | |
| 284 | J7-15 | | |
| 285 | J7-16 | | |
| 286 | J7-17 | | |
| 287 | J7-18 | | |
| 288 | J7-19 | | |
| 289 | J7-20 | | |
| 290 | J7-21 | | |
| 291 | J7-22 | | |
| 292 | J7-23 | | |
| 293 | J7-24 | | |

| WIRE No. | HARNESS 605454-005 (J8) OPTIONAL SERIAL I/O | CLR | AWG |
|----------|--|---------|----------|
| 300 | J8-1,72A-5 | SHLD | 22 |
| 301 | J8-2,72A-1 | WHI/ORG | 4 COND) |
| 302 | J8-3,72A-2 | ORG/WHI | SHIELDED |
| 303 | J8-4,72A-3 | WHI/BLU | TTT |
| 304 | J8-5,72A-4 | BLU/WHI | |
| 305 | J8-6 | | |
| 306 | J8-7 | | |
| 307 | J8-8 | | |
| 308 | J8-9 | | |

| WIRE No. | HARNESS 605454-007 (P8,TB) OPTIONAL SERIAL I/O | CLR | AWG |
|----------|---|---------|----------|
| 300 | P8-1,TB-37 | SHLD | 22 |
| 301 | P8-2,TB-38 | WHI/ORG | 4 COND) |
| 302 | P8-3,TB-39 | ORG/WHI | SHIELDED |
| 303 | P8-4,TB-40 | WHI/BLU | TTT |
| 304 | P8-5,TB-41 | BLU/WHI | |
| 305 | P8-6 | | |
| 306 | P8-7 | | |
| 307 | P8-8 | | |
| 308 | P8-9 | | |

| WIRE No. | HARNESS 483763 (J,CP-P1,CP-P2) CONTROL PANEL | CLR | AWG |
|----------|---|-----|-----|
| 39 | J-1,CP-P1-8 | | 16 |
| 14 | J-2,CP-P1-15 | | |
| 21 | J-3,CP-P1-2 | | |
| 3 | J-4,CP-P1-4 | | |
| 15 | J-5,CP-P1-17 | | |
| 7 | J-6,CP-P1-12 | | |
| 5 | J-7,CP-P1-7 | | |
| 120 | J-8,CP-P2-2 | | |
| 38 | J-9,CP-P2-3 | | |
| 28 | J-10,CP-P2-8 | | |
| 2 | J-11,CP-P1-10 | | |
| 1 | J-12,CP-P1-1 | | |
| 30 | J-13,CP-P2-9 | | |
| 29 | J-14,CP-P2-10 | | |
| 40 | J-15,CP-P1-5 | | |
| 24 | J-16,CP-P1-13 | | |
| 312 | J-17,CP-P2-1 | | |
| 6 | J-18,CP-P1-14 | | |
| | ADD WIRE | | |
| 9 | J-19 | | |
| 10 | J-20 | | |
| 11 | J-21 | | |
| 4 | J-22 | | |
| 8 | J-23 | | |
| 12 | J-24 | | |

| WIRE No. | HARNESS 309320-005 OPTIONAL 8 IN. EXTENSION HARNESS | CLR | AWG |
|----------|--|-----|-----|
| 39 | Jx-1,Px-1 | | 16 |
| 14 | Jx-2,Px-2 | | |
| 21 | Jx-3,Px-3 | | |
| 3 | Jx-4,Px-4 | | |
| 15 | Jx-5,Px-5 | | |
| 7 | Jx-6,Px-6 | | |
| 5 | Jx-7,Px-7 | | |
| 120 | Jx-8,Px-8 | | |
| 38 | Jx-9,Px-9 | | |
| 28 | Jx-10,Px-10 | | |
| 2 | Jx-11,Px-11 | | |
| 1 | Jx-12,Px-12 | | |
| 30 | Jx-13,Px-13 | | |